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DISASTERS AND DEVELOPMENT NEXUS: THEORY AND PRACTICE – A CASE OF ZIMBABWE

BY

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A THESIS SUBMITTED TO THE UNIVERSITY OF FORT HARE, FACULTY OF MANAGEMENT AND COMMERCE, DEVELOPMENT STUDIES DEPARTMENT IN FULFILMENT OF THE REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE IN DEVELOPMENT STUDIES

SUPERVISOR: PROFESSOR AMINUR RAHIM

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DECLARATION

I, GIFT CHATORA, hereby declare that this is my original work achieved over many years of hard work. I am fully aware of the University of Fort Hare's policy on plagiarism and have taken every precaution to comply with the regulations. To the best of my knowledge, all sources have been accurately reported and acknowledged. Further, this thesis has not been submitted to any university in whole or in parts for an academic award to me or anyone else. Hence, the views expressed in this thesis are those of the author, with the exception of areas indicated by means of complete reference. In this regard, any errors and/or omissions remain the sole responsibility of the author. Equally, I complied with the University's Research Ethics policy by obtaining an ethical clearance certificate through the University of Fort Hare's Research Ethics Committee, and my reference number is RAH0101SCHA01.

GIFT CHATORA

18 April 2017

SUPERVISOR: PROFESSOR AMINUR RAHIM

DEDICATION

This thesis is dedicated to my beloved wife Cicilia, and my four sons and promising scholars, Blessing Howard (jnr), Takudzwa Gift (jnr), Tatenda Byron and Emmanuel Tinashe.

ABSTRACT

This study is premised on the notion that disasters and development have a nexus, both theoretically and practically although the two fields have been traditionally viewed as antagonistic at face value. The principal objective was to analyze the existing theoretical and practical gaps between disasters and development in Zimbabwe. Furthermore, factors that affect achievement of disaster mitigation and development linkages in Zimbabwe were critically examined. The study conceptualizes disasters and development from multiple angles.

The nested relationship between disasters and development are reinforced with the use of multiple disaster risk reduction strategies to mitigate vulnerability in both rural and urban areas. Hence, this study opted for the mixed methods approach from conceptualization throughout the research process so as to capitalize on the strengths entrenched in both qualitative and quantitative approaches. Drawing on a mixed methodology approach, this study approached the variables from multiple dimensions since disasters and development are intertwined.

Evidently, the study demonstrates that disasters and development have a strong nexus, theoretically and practically. This confirms the study hypothesis that disasters and development are correlated, as disasters can both destroy development initiatives and create development opportunities, and that development schemes can both increase and decrease vulnerability. The study

also found that policy practice in Zimbabwe is heavily fragmented, thereby leading to incoherent policy implementation. This results in increased vulnerability and huge disaster impacts that erode development gains therefore compromising achievement of sustainable development goals. Hence, the study recommended for the adoption of a Disaster Risk Reduction theoretical framework in cementing the disasters and development linkages theoretically and pragmatically. DRR enhances community's resilience capacity in curtailing the progression of vulnerability and mitigate the accelerated incubation of disasters that impact on development strides.

Key Words:

Hazard, Vulnerability, Risk, Capabilities, Disaster Risk Reduction, Disaster and Development Nexus.

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CHAPTER 1: THE PROBLEM AND SETTING

1.1 INTRODUCTION

Disasters and development have been traditionally viewed as miles apart without correlation, a notion that is pronounced at face value without deep analysis. Contextually, Zimbabwe's diagnosis of disasters and development issues are centred on a triangular of factors that can be summarized as follows: First, Zimbabwe is a disaster-prone country that is susceptible to both natural and human-induced hazards that easily incubate into disasters if not mitigated. Secondly, the state's capacity to respond to disasters remain relatively low without external support. This is further worsened by incoherent disaster management and development policies or policy discord coupled with the third factor of inadequate resourcing of these key correlated areas. As a result, vulnerability continues to rise in a country whose people's resilience is weakened by realms of poverty and weak social safety nets. Above all, disasters weaken community's resilience in curtailing the progression of vulnerability. Likewise, development can increase susceptibility to disasters (Stephenson 1994). Hence, the need to analytically unpack the disasters and development linkages theoretically

and practically through this study therefore providing a niche in the field of development studies.

In particular, the levels of poverty and underdevelopment is alarming in Zimbabwe. These have become protracted in nature, thus triggering increased levels of vulnerability and exposure to risks, in a society with weakened resilience to quickly bounce from disaster shocks. Estimates suggest that over 70% of Zimbabwe's population live on less than one United States Dollar (US$1) per day and about 67% of them are in rural areas (ZIMSTAT, 2013). Hence, the need for this study that unpacks the disasters and development linkages through a synthesis of theory and practice in Zimbabwe, based on three case studies drawn from rural, peri-urban and urban areas of Buhera, Centenary-Muzarabani and Harare respectively. Studying three distinct areas with heterogeneous characteristics allows for comparative case study analysis, uncovering some central thematic areas or core rudiments/elements, identifying issues of commonality that cuts across a diverse purposively variable, stratified and emergent sample.

Geographically, Zimbabwe is a landlocked agro-based country located in Southern Africa with a total land area of 390,757 square kilometres.

Zimbabwe is bordered by Mozambique to the east, South Africa to the south, Botswana to the west, and Zambia to the north and Namibia to the northwest – see figures 1 and 2. The country is divided into 10 administrative provinces and 62 districts. The capital city is Harare, and other major cities include Bulawayo, Gweru, Kadoma, Kwekwe, Masvingo and Mutare. The altitude ranges between 197m and 2,592m with 80% of the land being higher than 600m and less than 5% is above 1,500m. The highest part is located in the mountain range in the Eastern Highlands. The major topographic features of the country consist of six general physical regions namely; Eastern Highlands, Highveld, Middleveld, Kalahari Sandveld, Zambezi Valley, Southeast Lowveld and Middle Save Valley. The three case studies in this disasters and development discussion fall within the following topographic zones viz; Buhera in the middleveld, Centenary-Muzarabani in the mid Zambezi valley with a little portion falling in the Highveld, and Harare is located in the Highveld. Anderson et al. (1993) described these topographic regions as follows:

- Eastern Highlands: This is a series of mountain ranges extending some 250 km along the border with Mozambique. Altitude ranges between 2 000 m and 2 400 m. The high elevation gives this region a characteristic microclimate and vegetation;
- Highveld: Consists of a more or less gently undulating plateau above 1 200m. A northern sub-region extends from Chinhoyi to Rusape and south to Gweru. Harare is included in this topography as well. Karoi is centred on an outlier of this sub-region to the northwest. A southern, more arid, sub-region extends and narrows southwest from Gweru to Plumtree;

- Middleveld: Borders the Highveld. Elevation ranges between 900m and 1 200m. Undulating to rolling, with common rock outcrops and locally dissected, it comprises a sub-region 80 to 160 km wide southeast of the Highveld and two more complex sub-regions to the northeast and northwest of the Highveld;
- Kalahari Sandveld: This is an extensive area in western Zimbabwe influenced by a mantle of deep Aeolian Kalahari sands. It is flat to undulating with an altitude less than 1 200m;
- Zambezi Valley This can be divided into two sub-regions separated by the Kariba gorge. The Upper Zambezi Valley and Sanyati-Sengwa Basin sub-region, mainly at elevations between 500m and 900m, shows strong structural control, resulting in the Matusadonha and Chizarira plateaux. The Mid Zambezi Valley sub-region downstream of the Kariba Gorge and demarcated by the precipitous Zambezi Escarpment, declines northwards from about 600 m elevation at the escarpment foot to about 350m at the Mozambique border. It is generally less broken than the Upper Zambezi Valley, particularly east of the Manyame River where the landform shape is almost flat to undulating but with a finely dissected micro-relief in places; and
- Southeast Lowveld and Middle Save Valley: This is a broad pene-plain at elevations under 900m. East of the middle reaches of the Save River, there is a marked rise through the foothills of the Eastern Highlands. Elsewhere, the transition to Middleveld is gradational. Landform is very subdued, generally almost flat to gently undulating.

The different topographic features subject Zimbabwe to multiple hazards and disasters that are of a different nature, which may retard development

if disaster risk reduction is not fully implemented through the translation of theory into practice. The disasters that have affected Zimbabwe in the past and the common hazards vary from province to province in terms of frequency and severity. However, the major hazards for the three case studies are: drought in Buhera, floods in Centenary-Muzarabani and epidemics and toxic waste in Harare. This does not rule out other natural, human-induced, environmental and technological hazards that are also common in these three areas at varying degrees.

Anderson et al. (1993 cited in Gambiza and Nyama, 2000) suggest that Zimbabwe's topography has a major influence on the climatic zones for the country. Dry conditions experienced in areas like Buhera have an influence on the food production, given that Zimbabwe is an agro-based country. Climate variation increases the vulnerability of Zimbabwe to climatic and hydro-meteorological related hazards such as droughts and floods that are common in Buhera and Centenary-Muzarabani respectively. Frequent droughts in a country like Zimbabwe affect the economic growth and development of a nation that was once the bread basket of southern Africa before the agrarian land reform programme in the early 2000s. Levels of vulnerability among Zimbabweans also increase due to climate change and global warming phenomenon, thereby lowing the coping capacity and resilience.

Gambiza and Nyama (2000) postulated that Zimbabwe's climate lies entirely with the tropics but greater portion of the Highveld and Eastern Highlands have sub-tropical to temperate climate due to the modifying effect of the altitude. The country has three major seasons; these are: a hot wet season from mid-November to March (summer), a cold dry season from

April to July (winter) and a hot dry season from August to mid-November (spring). Frost may occur in most areas of Zimbabwe during the period May to September, and severity varies according to topography with valleys, *vleis* and other sites that receive and retain cold air being more susceptible. The mid-Zambezi valley where Centenary-Muzarabani is located is reported to be a frost-free region. However, hot temperatures experienced in the area make it to be endemic to malaria and *tsetse* flies.

Vincent and Thomas (1960 cited in Gambiza and Nyama, 2000) divided Zimbabwe into five main agro-ecological regions based on effective rainfall as highlighted in (Figure: 1) and complemented by graphic illustration in Table 1.1 below.

Table 1.1: Zimbabwe Farming Agro-ecological Zones

Natural Region	Area (km^2)	Rainfall (mm yr^{-1})	Farming System
I.	7,000	>1,000	Specialized and diversified farming
II.	58,600	750 – 1,000	Intensive farming
III.	72,900	650 - 800	Semi-intensive farming
IV.	147,800	450 - 650	Semi-extensive farming
V.	104,400	<450	Extensive farming

Adapted from Gambiza and Nyama (2000:7) Zimbabwe Country Pasture/Forage Resource Profile

Agro-ecological zones are a crucial part in the disasters and development discourse in Zimbabwe. The delineation of the agro-ecological zones has a bearing in the food security, susceptibility to drought, floods and other hydro-meteorological, climatic and environmental hazards, hence the need

to discuss them in this study. Areas like Buhera being in agro-ecological region lll receive average rainfall of 650 – 800mm and practice semi-intensive farming, Centenary-Muzarabani falls in the range of 450 – 650mm in the low lying northern valley parts of the district with the upper part falls under regions I and lll. Ironically, Muzarabani, being a valley, normally experiences flash floods around Chadereka, Dambakurimwa, Nzoumvunda, Musengezi and other areas in the district. One is left with questions on what Muzarabani means in Shona. Literally, Muzarabani translates to floodplain. It is also synonymous with the major hazard recurrent in the area – floods. Harare is in the agro-ecological zone I, which practices specialized and diversified farming with an average rainfall of more than 1,000mm with high chances of food security. However, the area is susceptible to high risks of gastrointestinal infections like cholera, dysentery and typhoid.

Gambiza and Nyama (2000) posit that natural region I only covers 2% of Zimbabwe land area, but it is endowed with economic activities such as specialized and diversified farming that increases the chances of economic development, improved livelihood and ability to recover from disaster shocks. A comparative analysis of regions lll (Buhera) and region lV (Muzarabani) with Harare (region I) reveals that disaster shocks are felt

more in Buhera and Muzarabani, as opposed to Harare, because the livelihood options are limited, and the chances of being affected by climate variations are higher. This can be attributed to the rainfall pattern that averages 650 – 800mm in Buhera and 450 – 650 in Muzarabani. Low rainfall is a factor in agricultural production and development of an area. Zimbabwe's rural, peri-urban and urban areas discussed in this study require a disaster risk reduction approach that is pillared in holism, which allows translation of policies into practice aimed at promoting disasters and development correlation.

Figure 1: Zimbabwe Agro-Ecological Zones

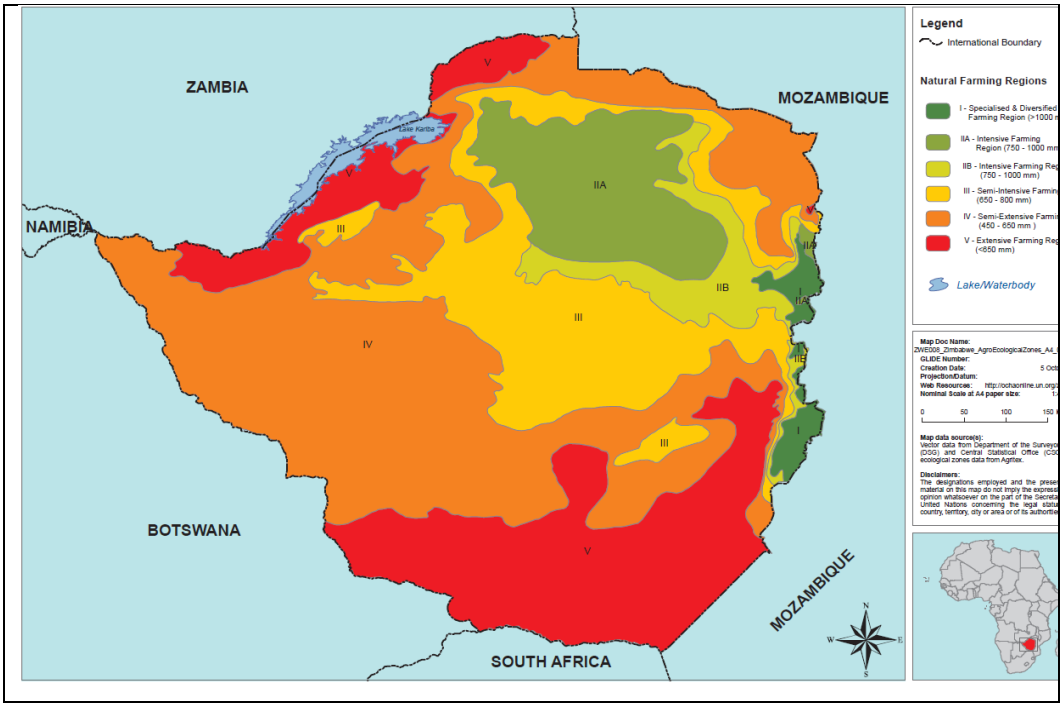


Figure 1: Zimbabwe Agro-Ecological Zones (adapted from Gambiza and Nyama 2000:6)

Zimbabwe is a natural and human-induced disasters-prone country. From 1980 – 2010, a total of 35 major natural disasters were recorded. These events resulted in the loss of lives for 6,448 people and cumulatively, 16,488,458 individuals were affected (Preventionweb, 2012). The frequency and high mortality rates can be attributed to epidemics with 20 events recorded during the post-independent period up to 2010. The World Health Organisation (WHO) reported that during the period 2008/2009, the cholera epidemic alone accounted for 4,288 deaths, and the index case was reported to have originated from Harare Metropolitan province before spreading to other parts of the country (WHO and Ministry of Health and Child Welfare, 2009). Buhera and Centenary-Muzarabani were also equally affected by cholera at varying levels.

Globally, according to the World Risk Report (2012:20-64), Zimbabwe was ranked at position 15 in terms of top fifteen most susceptible countries in the world with a susceptibility of 58.45%, while its risk level stood at position 39 with a risk index of 9.87% against world risk ranking. Zimbabwe's World Risk index levels can be compared to other countries in Southern Africa as illustrated below.

Table 1.2: World Risk Index – Southern Africa Overview

World Rank	Country	World Risk Index	Exposure	Vulnerability	Susceptibility	Lack of coping capacity	Lack of adaptive
39	Zimbabwe	9.87%	14.96%	65.97%	58.45%	87.74%	51.73%
43	Mozambique	9.09%	12.73%	71.37%	67.63%	84.91%	61.58%
54	Malawi	8.18%	12.34%	66.25%	56.28%	85.31%	57.15%
61	Swaziland	7.84%	12.75%	61.41%	47.48%	82.07%	54.69%
69	Zambia	7.44%	11.37%	65.46%	61.81%	81.26%	53.31%
75	Lesotho	7.22%	11.40%	63.33%	50.87%	81.83%	57.30%
88	Angola	6.56%	10.18%	64.45%	56.15%	85.28%	51.91%
100	South Africa	5.90%	12.08%	48.83%	31.36%	69.85%	45.26%
104	Namibia	5.72%	10.41%	54.96%	46.26%	72.11%	46.51%
109	Botswana	5.21%	10.55%	49.40%	31.97%	68.77%	47.46%

Adapted from World Risk Report (2012:64-65)

An analysis of the table above suggests that any small trigger or shock in Zimbabwe can easily progress to become a disaster due to high vulnerability and low capacity that is not tallied with development and resilience programmes. Therefore, hazards continue to render Zimbabweans in need of life-saving assistance and social safety nets. The

situation is exacerbated by low resilience to recurrent and predictable natural and human-induced hazards. For example, deforestation driven by chronic poverty and short-term coping strategies is widespread, thereby worsening the effect of flooding, climatic related hazards and environmental degradation. In a largely agrarian economy, poor crop diversity and high dependence on rain-fed crops (as opposed to irrigation-fed crops) amplify the food insecurity caused by drought.

On the development side, in 2013, the United Nations Development Programme (UNDP), ranked Zimbabwe among countries at the bottom of the human development index (HDI) standing at 172 out of 186 HDI ranked nations. UNDP (2013) further postulated that between 1990 and 2012, almost all countries improved their human development status. Of the 132 countries with a complete data series, only 2 had a lower HDI value in 2012 than in 1990 (Lesotho and Zimbabwe). This reveals the need for clear synergies for disasters and development to mitigate effects that retard development gains through an inter-sectoral holistic disaster risk reduction approach. On the contrary, UNDP (2010) rated Zimbabwe as a country with the highest literacy rates in Africa of 90.7% (94.2% for males and 87.2% for females). One can question is: if Zimbabwe has the highest literacy rates in the African continent, why is the much touted academic literacy not being

translated to pragmatic implementation of disasters and development policies that moves the country a gear up towards sustainable development? Socio-political-economic instability, coupled with hyperinflation over the period 1998 – 2009, may be attributed as factors in development decline, since income is a flow variable and education and health outcomes are stock variables, sometimes a positive difference between Gross National Income/per capita (GNI) and HDI rank can emerge when a country has built up its development achievements but its income falls in the short term as in Zimbabwe (UNDP, 2013:125).

While natural disasters have impacted on Zimbabwe over the past decades, coupled with socio-political-economic challenges and development stagnation, the country also experienced post-independence civil war from 1981 to 1987. This was concentrated mainly in Matebeleland and Midlands regions before a Unity Accord was signed on 22 December 1987. Prior to Zimbabwe's independence in 1980, the country suffered protracted years of man-made war. The response to disasters during the colonial period was biased along racial grounds compromising the humanitarian imperative. Literature suggests that the world's largest outbreak of human anthrax occurred in rural areas such as Buhera in then Rhodesia (now Zimbabwe) from 1978-1980 when 10,738 cases were recorded and 182 people died.

The anthrax outbreak was confined to Communal Lands where most Africans lived. In the white commercial farmlands, there were only four small outbreaks and 11 cattle deaths. No human cases were recorded (Martin, 2001). This reveals that the colonial government prior to Zimbabwe's independence gave scant attention to the linkage between disasters and underdevelopment as suggested by the anthrax outbreak that was confined to rural areas where infrastructure was in a poor state. In the post-independence era, the government continued to respond to disasters using a colonially inherited term of "civil protection", through the Civil Protection Act number 6 of 1996 as opposed to holistic disaster management.

The Civil Protection Act Chapter 10:06 Zimbabwe of 1996 focuses on emergency preparedness, mitigation and disaster prevention and is silent on early recovery and development linkages. This creates a void in the legal framework that is supposed to provide multi-sectoral approach in the management of the disaster continuum by showing the nexus of disasters and development through provisions in a national legal document that guides policy implementation. The oratorical nature of how disasters and development are looked at in Zimbabwe in both theory and practice can be further drawn from the lack of political and administrative will in advocating for the holistic Disaster Management Act. In 2011, there were attempts to

revise the archaic Civil Protection Act that led to the development of the Disaster Risk Management Bill which has remained a Bill since then without being translated into an approved Government Act.

The Civil Protection Act number 6 of 1996 section (41) sub-section (2) provides for the creation of the National Civil Protection Coordination Committee (NCPCC) that is unevenly replicated at provincial and district level structures. This creates a policy and practice gap that needs to be unveiled through a trans-disciplinary holistic disaster risk reduction approach with a view of influencing policy and practice.

The colonially inherited terminology of “Civil Protection”, as enshrined in the Zimbabwe Civil Protection Act number 6 of 1996, confines disaster managers and development practitioners to short-sightedly look at the Act as a legal instrument that is put in place to safeguard human lives, property and to a lesser extent, the environment. This limits the policy framework in addressing issues of disaster management holistically. Likewise, besides the existence of the Environmental Management Act (2002), the enforcement of provisions need to be unpacked in the context of disasters and development.

The Public Health Act (1996) Part lll, sub-section 36 provides for early detection and management of formidable epidemic diseases like Asiatic cholera and other diseases which may be declared as an epidemic by the Minister for the purposes of the Act. However, Zimbabwe in 2008/2009 suffered a major cholera epidemic disaster and minimal efforts were made to link the disaster to development through replacement of water pipes in major cities like Harare, drilling of boreholes, rehabilitation of water reticulation system and pump stations. Provisions of the Public Health Act, Part Vl and section 66 continue to be violated, with local authorities failing to provide safe water to residents, a concern that increases the potential for epidemic disasters and erodes development gains as well as revealing a mismatch on disasters and development theory and practice in Zimbabwe, regardless of the existence of well-crafted and enabling laws/policies.

1.2 STATEMENT OF THE PROBLEM

An analysis of disaster management and development policies in Zimbabwe reveals a mismatch in policy and practice. This further reflects incoherence in the crafting or implementation of disasters and development related policies and practices in Zimbabwe. In this view, understanding the problem of disasters and development relationships in a developing country

like Zimbabwe is left hanging in the air and requires a thorough analysis that helps in plugging the inadequacies.

Fundamentally, disasters and development nexus has intricate benefits in curtailing poverty and vulnerability progression, building resilience, mitigating disasters and promoting sustainable development. This is based on the assumption that disasters and development are closely linked. Disasters can both destroy development gains and create new development opportunities while on the other hand, development programmes can both increase or decrease exposure and susceptibility to loss of life or dignity (Stephenson, 1994). Guided by the Zimbabwe Civil Protection Act number 6 of 1996 and supported with literature drawn from Twigg (2004), DCP (2009 and ISDR (2002), it is assumed that hazards are mapped, analyzed and then mitigation measures and development oriented programmes are put in place. Based on identified hazards pragmatic steps should be taken to foster disasters and development linkages.

If disasters and development are to be accorded true marriage in Zimbabwe; then theory and practice should match at all levels in society. Arguably, disasters have been seen as retarding development and development programmes have not been seen as contributing to disasters

as people view development from an affirmative perspective, while disasters have been negatively viewed as they bring untold suffering to people through injury, loss of life, livelihoods or property. Therefore, the thesis hypothesized that by exploring and analysing complementarities between development and disasters, a positive meaning of disaster and development can be enunciated.

Fundamentally, questions asked are: is there contemporary literature on disasters and development? Why are disasters viewed negatively if development gains and opportunities are congealed within disasters? (Collins 2009). How can Zimbabwean communities be empowered with an understanding of disasters and development linkages? What variables influence the study on disasters and development nexus? What are the theoretical and practical gaps, for disasters and development nexus in Zimbabwe? One can go further and ask: what factors hinder or influence the achievements of Disaster Mitigation and Development linkages in Zimbabwe? Likewise, what is the policy practice in Zimbabwe with regard to disaster management and development? By raising the above questions, the study seeks to influence policy and practice on disasters and development interface, by triggering a challenging debate that should see policy makers, development planners, scholars, disaster risk managers and

disaster risk reduction practitioners to rethink on approaches to tackle the linkages. The above questions facilitate an examination and analysis on whether Zimbabwe has adapted to the changing conditions in a post-colonial state in relationship to how issues of disasters and development are addressed. The study puts forward the hypothesis that: disasters and development are correlated, as disasters can both destroy development initiatives and create development opportunities, and that development schemes can both increase and decrease vulnerability (Collins 2009; Stephenson 1994). Instead of viewing disasters negatively, this study further proposes that development gains and opportunities are congealed within disasters as postulated by (Collins 2009).

1.3 AIMS AND OBJECTIVES OF THE STUDY

The study aims at unpacking the disasters and development linkages theoretically and pragmatically from a Zimbabwean context that can be replicated globally. It is worth noting that the principal objective of this study is to analyse the symbiosis between disaster and development, given the notion that these fields have been traditionally viewed as opposing to each other in Zimbabwe. In an attempt to achieve the principal objective, the study:

- Analyses the existing theoretical and practical gaps between disasters and development in Zimbabwe;
- Examines factors that affect achievement of disaster mitigation and development linkages in Zimbabwe; and
- Evaluates the disaster and development policy practice in Zimbabwe.

1.4 SIGNIFICANCE OF THE STUDY

Disaster mitigation and development linkages have not been fully institutionalized and holistically implemented in Zimbabwe, and significant gaps still existing in reconciling policy and practice. The study focuses on addressing the disasters and development nexus theoretical and practical gaps in Zimbabwe drawing from case studies in Buhera Centenary-Muzarabani and Harare aimed at coming up with conclusions and recommendations that influence policy and practice. This case study is entrenched in Stephenson's scholarship on disasters and development relationships (Stephenson, 1994; 2002 and 2005) who popularized the linkages. However, there is scanty literature in Zimbabwe in the same field, a gap that can be filled through this discourse.

Manyena (2006) did a study on rural local authorities and disaster resilience in Zimbabwe focusing on Binga district case study in the Zambezi Valley, Zimbabwe. Manyena's study argued that building institutional capacity for rural district councils is fundamental if the disaster resilience agenda has to be realised. However, the study does not conclusively show the disasters and development linkages that can facilitate progression of the disaster resilience agenda is Zimbabwe. Capacity building is just one of the components of the disaster risk reduction conceptual framework. Hence, this study goes further to look at the totality of disaster management continuum and its linkage to development.

The disasters and development linkages have not been sufficiently studied in the Zimbabwean context. Hence, this study attempts to investigate the nature and possibility of such linkages both theoretically and practically. Suffice to say that Zimbabwe has scanty literature on disasters and development, this study seeks to cement on community-based disaster risk reduction initiatives by scholars like Bongo (2011) whose work focused on livelihoods centred disaster risk reduction in rural Zimbabwe. Moreover, this study analyzes theoretical and practical linkages of disasters in all settings – viz; rural, peri-urban and urban settlements. Bongo (2011) posits the need for building and strengthening community livelihoods to enhance resilience

before and after a disaster. Bongo (2011) further argues that in many cases, failure to address the risks posed by prevailing hazards has impacted negatively on development initiatives; a notion that is discussed comprehensively in this study. This study brings in a paradigm shift in the way disasters and development are viewed in the field of development studies through well-grounded empirical evidence drawn from rural, peri-urban and urban settlements that may influence theory and practice at all levels in Zimbabwe and beyond.

The research generates knowledge and insights that trigger debates on the disasters and development linkages that inspires other scholars to pursue studies in this exciting field. This allows for policy makers, development planners, disaster managers, disaster risk reduction practitioners, government, Non-Governmental Organisations, Humanitarian and International organisations to rethink their approaches to disasters and development by focusing on areas of convergence that help in reducing progression of vulnerability, cutting the vicious poverty cycle and promote development.

The study contributes to the identification and analysis of the factors that facilitate or hinder pragmatic integrated or holistic approaches to disasters

and development policies and practices that allow moving from being rhetoric to practical reality from an empirical evidence-based perspective. Therefore, knowledge and evidence generated through this study can facilitate dialogue among a range of actors.

1.5 RESEARCH DESIGN AND METHODOLOGY

This section offers a helicopter view on research methodology for this study. A detailed research methodology is exhaustively articulated in chapter four of this study as disasters and development nexus – theory and practice discourse. In particular, the symbiotic relationship between disaster and development are strengthened with the use of multiple disaster risk reduction strategies to mitigate vulnerability in both rural and urban areas. Hence, this study opted for the mixed methods approach from conceptualization throughout the research process so as to capitalize on the strengths entrenched in both qualitative and quantitative approaches. Drawing on a mixed methodology approach, this study approached the variables from multiple dimensions since disasters and development are intertwined.

It is worth mentioning that in this study, qualitative and quantitative research methodologies are employed as a way of data and methodological

triangulation (Pearson, 1998). However, the qualitative research methodologies are more dominant because of the adopted case study design. This was achieved through the use of interviews, focus group discussions, observations, field visits and document analysis, while quantitatively structured questionnaires were used. This allowed collection, triangulation and analysis of data from overlapping complex social studies web that is intricately inter-woven. The case study research design was selected because it allows learning more about a little known or poorly understood phenomena as argued by Leedy and Ormrod (2010) such as the disaster and development correlation. Furthermore, the study used the mixed non-probability purposive sampling that combines; mixed variation in the selection of (rural, peri-urban and urban settings), stratified purposeful sampling which allowed the researcher to equally sample from each of the layers. Stratified sampling has the advantage of guaranteeing representation of each of the identified stratas (Leedy & Ormrod, 2005:202), and emergent sampling was used during field work allowing for capturing major variations and common themes in this disasters and development discourse whose target population; a sample was drawn from Buhera, Centenary-Muzarabani and Harare.

Most importantly, both qualitative and quantitative data gathered through structured questions was subjected to analysis using Microsoft Office Excel which performs equally the same as Statistical Package for Social Sciences (SPSS). In addition, the findings in the body chapters of this study are communicated through inductive and to some extent deductive reason reasoning, narratives, individual quotations, testimonial, textual, graphic and tabular forms, with some aggregated data/statistics as suggested by Leedy and Ormrod, (2005:96) and Leedy and Ormrod
(2005: 303 – 308). Notably, an approach similar to the analytical inductive grounded theory approach provided a strong framework in thematic analysis of data in this study. Arguably, Mouton (2001:150) posits that analytical inductive and grounded theory approaches provide strong analytical frameworks in cases studies.

1.6 ETHICAL CONSIDERATIONS

This social science development studies anchored case study research involved human beings as subjects; hence the need for ethical considerations. Leedy and Ormrod (2005:101) proposed four categories of ethical consideration as: protection from harm, informed consent, right to privacy, and honesty with professional colleagues. The researcher ensured informed consent from interviews/respondents/subjects, confidentiality of

information provided, thus allowing data to be anonymous, taking into account the customs, standards, norms and values as well the cultural issues of the sampled population. Emails, internet and mobile telecommunication were used without breaching the country laws (Zimbabwe) and organisational guidelines in the case of government, non-governmental and international organisations that took part in this study. Notably, the researcher sought an ethical clearance certificate from the University of Fort Hare's Research Ethics Committee (UREC) before commencement of the data collection process. Additionally, University of Fort Hare doctoral research guidelines and those of the Research Council for South Africa were used to guide ethical issues in this study. The data collected and processed into information are scholarly purpose focused only.

1.7 DELIMITATION OF THE STUDY

This study concerns itself with disasters and development nexus in Zimbabwe based on a synthesis of theory and practice. It is worth noting that, due to time and resource constraints, the study focused only on three areas. These are Buhera district located in the south – as rural setting, Centenary-Muzarabani district in the north, which is a peri-urban setting and Harare metropolitan province located in the central parts of the country – an

urban-based location. In light of the above, the study does not consider Zimbabwean rural and urban districts in totality but relies on a representative sample drawn from Buhera, Harare and Centenary-Muzarabani. In other words, the issue of using three selected areas as representative sample brings in biases that may influence the reliability of study conclusions. However, this was mitigated by selecting areas that are spatially spaced with diverse demography, as well as different development levels. Notably, the study can trigger future research in disaster management and development planning. Likewise, the study can prompt some discourse on the efficacy of Disaster Risk Reduction (DRR) Conceptual Framework, which was used as the theoretical framework underpinning this study. However, without political will, coherent policy and practice, and adequate resourcing in the areas of disaster management and development, DRR will remain a concept hanging in the air and vulnerability continues on the upward scale in Zimbabwe.

The study has a qualitative research design predisposition because of the key research instruments used for data collection such as; interviews, focus group discussions, observations, field visits and document analysis. However, the qualitative focus is labour intensive and difficult to replicate. Hence, the study complemented this by using structured questionnaires

that are quantitative in nature, thus enhancing triangulation and accommodating respondents who did not have time for interviews but could complete the questionnaire and email or submit for data analysis.

One major risk was vehicular access to remote parts of Muzarabani. To mitigate this, a 4 x 4 vehicle was used during field data collection using interviews and focus group discussions. Access to rural communities can be a challenge in Zimbabwe due to political polarization. Hence, the Principal Researcher ensured that permission was sought at the highest Level within the Ministry of Local Government which facilitated unhindered access to districts selected for this study.

The map below shows spatial geographical setting of the study areas. This brings diversity in terms of population, hazards and unique development programmes in each of the selected areas, which gave an opportunity for comparisons and extrapolating similarities, while at the same time considering uniqueness of each case.

Figure 2: Zimbabwe District Boundaries Map

Figure 2: Zimbabwe District Boundaries Map adapted from http://mapsof.net/map/zimbabwe-geohive [Accessed 27 June 2015]

1.8 ORGANISATION OF THE STUDY

This study is thematically divided into six chapters that are closely linked to each other. Chapter one is the cornerstone of the whole study. It looks at the problem and its setting, discussing the statement of the problem, study hypothesis, objectives of the study and its significance, the research design and methodology, ethical considerations and delimitation of the study.

Chapter two focuses at theorizing and analyzing the disasters and development nexus. This is followed by a scholarly debate in Chapter three on disasters and development from a disaster risk reduction perspective as an alternative conceptual framework for disasters and development correlation, guided by a review of a compendium of literature and good practices. In Chapter four the discussion exhaustively and logically looks at the research methodology.

Chapter five provides a detailed description of the findings on the disasters and development nexus in Zimbabwe from both a theoretical and practical perspective. This is further enhanced by a thorough analysis, interpretation and discussion of the findings. In chapter six, the study critically and analytical evaluates the disaster and development policy practice in Zimbabwe. In sum, chapter six concludes discussion in this study.

CHAPTER 2: DISASTERS AND DEVELOPMENT: THEORY AND FRAMEWORK

2.1 INTRODUCTION

Disasters and development fields are shrouded with myths and misconceptions. Hence, this makes these two fields to be viewed as diametrically antagonistic yet they have some correlation as revealed in this chapter. In other words, disasters and development are viewed at face value as miles apart or irreconcilable partners, a notion that is challenged through this study. The purpose of this chapter is to unpack the theoretical framework for disasters and development guided by scholarly literature survey in these two intricately twined fields in development studies.

Additionally, disaster and development, and their ingredients enjoy thorough theoretical debate in this and subsequent chapters. Most importantly, a review of related literature and its discussion in this chapter builds a strong understanding on the theoretical framework of this study. In particular, literature discussion in this chapter centres on; defining disasters, explaining the typologies, taxonomies and concepts related to disaster. Further, scholarly discussions look at the approaches to development and

disaster, modernization and disaster as well as capability approach and disaster. Finally, a discussion on sustainable development is given an in-depth review in relation to disaster, leading to the conclusion of this chapter.

2.2 CONCEPTUALIZING DISASTER

A review of disaster literature reveals that it is defined from multi-dimensional perspectives. Further, the concept disaster is marred in a thick cloud of mists due to the conceptual and philosophical focus of different scholars. For example, some scholars take a typological view, while others opt for taxonomical or conceptual theoretical views.

It is important to note that the radical and cultural/institutional theories presented by Marx and Weber have had a profound impact on disaster scholarship (McEntire, 2004:195). Furthermore, the radical thesis asserts that poverty is a major causal explanation of disaster (McEntire, 2004). Hence, the need to advocate for the restructuring of social, economic, political and technological relations as a way to reduce calamities or disasters. In particular, this genre is best represented by scholarly views drawn from Hewitt (Hewitt, 1983a). On the other hand, the conservative thesis asserts that culture plays a determinant role in catalysing disaster manifestation, and recommends alterations in beliefs or behaviour and

increased rationalization and bureaucratization as means to reduce the effect of hazards and promote resilient communities (McEntire, 2004). This school of thought is advocated by scholars like Mileti (1999) and Mileti et al. (1995).

The scholarship of Oliver-Smith (1996 and 1999), Perry (1998) and Kroll-Smith and Gunter (1998) conceptualize disaster from an anthropological perspective, converging to the point that; "...disasters are disruptive to social intercourse, and that disasters should be understood in a context of social change (human and institutional adaptability)" in (Perry and Quarantelli (2005:313). Putting this to context in Zimbabwe, because of the extended family system, the disruption of the social intercourse by disasters has negative effects on the whole family or village or neighbourhood. Von Kotze and Holloway (1999) defined disasters as an event that is disruptive, thus causing losses on lives, livelihoods, economy, infrastructure, social and development gains. Further, Von Kotze and Holloway (1996), in defining disaster, assert on the inability of the community to cope using their own resources, hence the need for external support. Additionally, Von Kotze and Holloway (1996) propose a disaster continuum theoretical view guided by the "Expand-Stretch Model".

Oliver-Smith (1999:19) suggests that: “The definitional debate regarding disaster is significant because it prompts an exploration of the past and emerging dimensions of disaster in an increasingly hazardous present...” The ‘Expand-Stretch Model’ is one such emerging explanatory variable in the disaster conceptualization literature.

Figure 3: The Disaster Conceptualization - Expand-Stretch Model

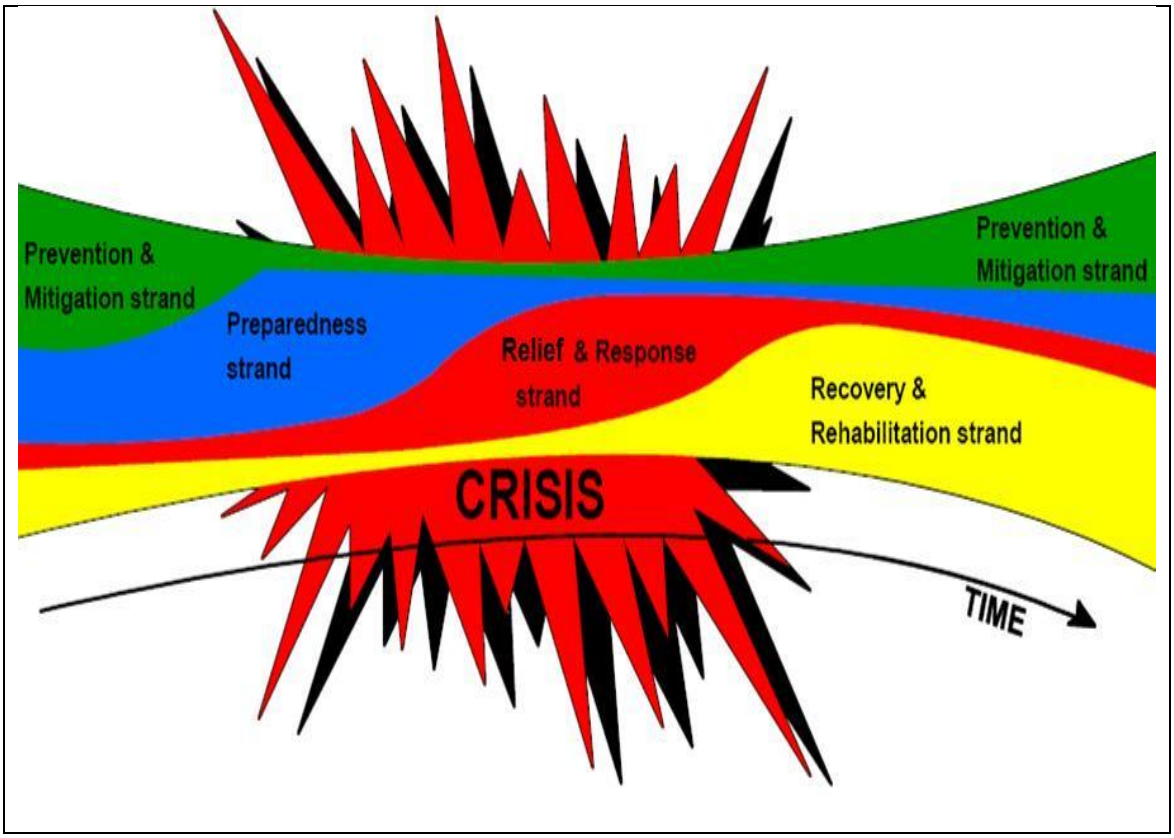


Figure 3: Expand-Stretch Model of a Disaster – Source: Von Kotze and Holloway (1996:37)

Some disaster scholars look at its scope and scale, likewise its magnitude or intensity causing widespread suffering coupled with a culture of responding to an abnormal event reactively or proactively (Van Niekerk, 2011). An empowered community takes a proactive approach in understanding and managing disasters through implementation of disaster risk reduction and emergency response preparedness.

Scholars like Wisner, Blaikie, Cannon and Davis (2004) conceptualize disaster with a focus on the core elements or ingredients that constitute a disaster viz; hazard, vulnerability, risk, capacity, resilience or coping capacity (individual, societal and institutional), manageability, response preparedness and risk mitigation measures.

The International Strategy for Disaster Reduction (2009:09) precisely, eloquently and theoretically defined disaster as; “a serious disruption of the functioning of a community or society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources”. Notably, ISDR’s (2009) definition of disaster progressively harmonized the diverse, legion and fruitfulness views by postulating a generically and globally accepted working definition in the theoretical pillars of social science disaster literature and research. Similarly, IFRC (2012) concurs with most aspects suggested by ISDR (2009) when they defined a disaster as “... a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community’s or society’s ability to cope using its own resources”. Therefore, the ISDR disaster

definition is adopted as the theoretical and philosophical definition in this study. However, theoretical and philosophical debate can be further retrospectively and contemporarily discussed.

Notably, the myriad definitional debate for disaster did not mean intellectual retardation or stasis as research in this area has grown across different fields. Drabek (1986) is of the view that disaster literature survey since the 1950s has gained substantive research in an effort to get a common ground on what constitutes a disaster definition.

Literature reviewed from Wisner, et al., (2004:10) postulated that conventional views on disaster emphasize on the 'trigger' role of geo-tectonics, climate or biological factors arising in nature. Thus, examples on this can be drawn from Bryant, Alexander, Tobin and Montz and Smith (Bryant, 1991; Alexander, 1993; Tobin and Montz, 1997; Smith, 2001). On the other hand, some scholars focus disaster's definition on the human response, psychological and physical trauma, economic, legal and political or governance consequences (Dynes et al., 1987; Lindell and Perry, 1992; Oliver-Smith, 1996; Platt et al., 1999). In both views, it shows the naturalness and human induced trigger factor in disasters causing suffering and washing away of development gains, while at household/community or

society levels, lives and livelihoods are lost. Hence, this continuum view shows that disasters and development have some linkages and vulnerable people should be aware of trigger factors especially in disaster prone areas in Zimbabwe.

It worth mentioning that disaster definition continued for decades to pause a challenging scholarly debate. Boin, Stallings and Dombrowsky (1988 cited in Perry and Quarantelli 2005:315) put their credence to the disaster literature by emphasizing the need to explore the meaning through taxonomy and classification. They argue that "...the term disaster – particularly the vernacular – is ambiguous and researchers need to refine the 'conceptual' space into theoretical meaningful units" (Perry and Quarantelli, 2005). Similarly, translating the term *disaster* into Zimbabwean local or vernacular languages may result in different meanings. Hence, the need to adopt simplified disaster terminology suggested by ISDR (2009) in their harmonized definition.

In summary, the conceptual and philosophical definition of disaster is legion, encompassing, interdisciplinary as well as trans-disciplinary in nature. Hence, there is a need to have an open-minded view when dealing with

disasters that affect the most vulnerable people in rural, peri-urban and urban areas in Zimbabwe.

2.3 VARIETIES OF DISASTER CONCEPTS

A number of scholars and practitioners concur that the notion of disaster conceptual and philosophical definition cannot be divorced from its crucial elements (hazards, vulnerability, capacity/capability, resilience and risk). Theoretically and practically, these elements enhance one's microcosm view of disaster. For instance, the term 'hazard', has been often confused with 'disaster' and at times used synonymously. Arguably, hazard and disaster 'are not the same and should not be used synonymously or interchangeably'. Twigg (2004) conceptually describes a hazard as a 'potential threat' to humans that can be natural or human induced.

A refined and harmonized view of hazard by ISDR (2009:17) postulated that it is: "A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage". The key words that differentiate a hazard from a disaster are: 'potential' and 'may' which brings in the aspect of probability if combined with other aspects like vulnerability, exposure, risk and weak

capabilities or weak resilience which then can result into a disaster. For instance, hazards in Zimbabwe and other developing countries in Asia can be reduced before incubating into disasters based on individual, collective community and institutional capacities. A good example is the strong floods/cyclone early warning system in countries like Mozambique, Bangladesh, the Philippines and other Asian countries.

The typology of hazards shows that they can be further classified as natural or human-induced. Further, hazards are categorized as rapid or slow onset, while other scholars prefer categorizing them according to their origin or source such as geological, meteorological, hydrological, oceanic, biological, and technological, sometimes acting in combination as suggested by ISDR, Twigg, Alexander and Department of Civil Protection (ISDR, 2009; Twigg, 2004; Alexander, 1993; Department of Civil Protection (DCP), 2009).

In the same vein, vulnerability is another key aspect in understanding disasters from a post-conventional scholarship. Wisner et al. (2004) suggested that vulnerability can literary mean exposure, being prone to or susceptible to damage or injury. Consistent with the above definition, ISDR (2009:30) puts forward an orchestrated vulnerability definition by positing that it is: “The characteristics and circumstances of a community, system or

asset that make it susceptible to the damaging effects of a hazard". Therefore, the susceptibility of the community plays a critical function in the progression and curtailing of vulnerability. Notably, vulnerability in human-induced hazards varies as the conflict dynamics evolves and according to the intensity. In other words, social and environmental factors play a major role in how society is exposed to human induced hazards. Crucial to note in vulnerability is the aspect of coping capacity as it differentiates the levels of vulnerability among individuals or groups in society as espoused by Eade, Anderson and Woodrow, IFRC, Wisner and ISDR (Eade, 1998; Anderson and Woodrow, 1998; IFRC, 1999; Wisner, 2003; ISDR 2009). Vulnerability varies based on sources of economy and livelihood activities. Contextually, in Zimbabwe, the rural economy constitutes 67%, and it is viewed as the less productive sector compared to the urban sector (ZIMSTAT, 2013). Hence, there is a danger for gargantuan vulnerability progress in rural areas among the poor.

Twigg (2004) suggests that it is the weaker groups in society that suffer most because of the levels of exposure and weak resilience or frail coping capacity. However, "vulnerability is more than just poverty, but the poor tend to be most vulnerable" (Twigg, 2004:16). In Zimbabwe, the economic challenges and low income levels pushes people to stay in cheap and

hazardous places in both rural and urban areas, thereby increasing their progression of vulnerability.

Figure 4: The Pressure and Release (PAR) Model:

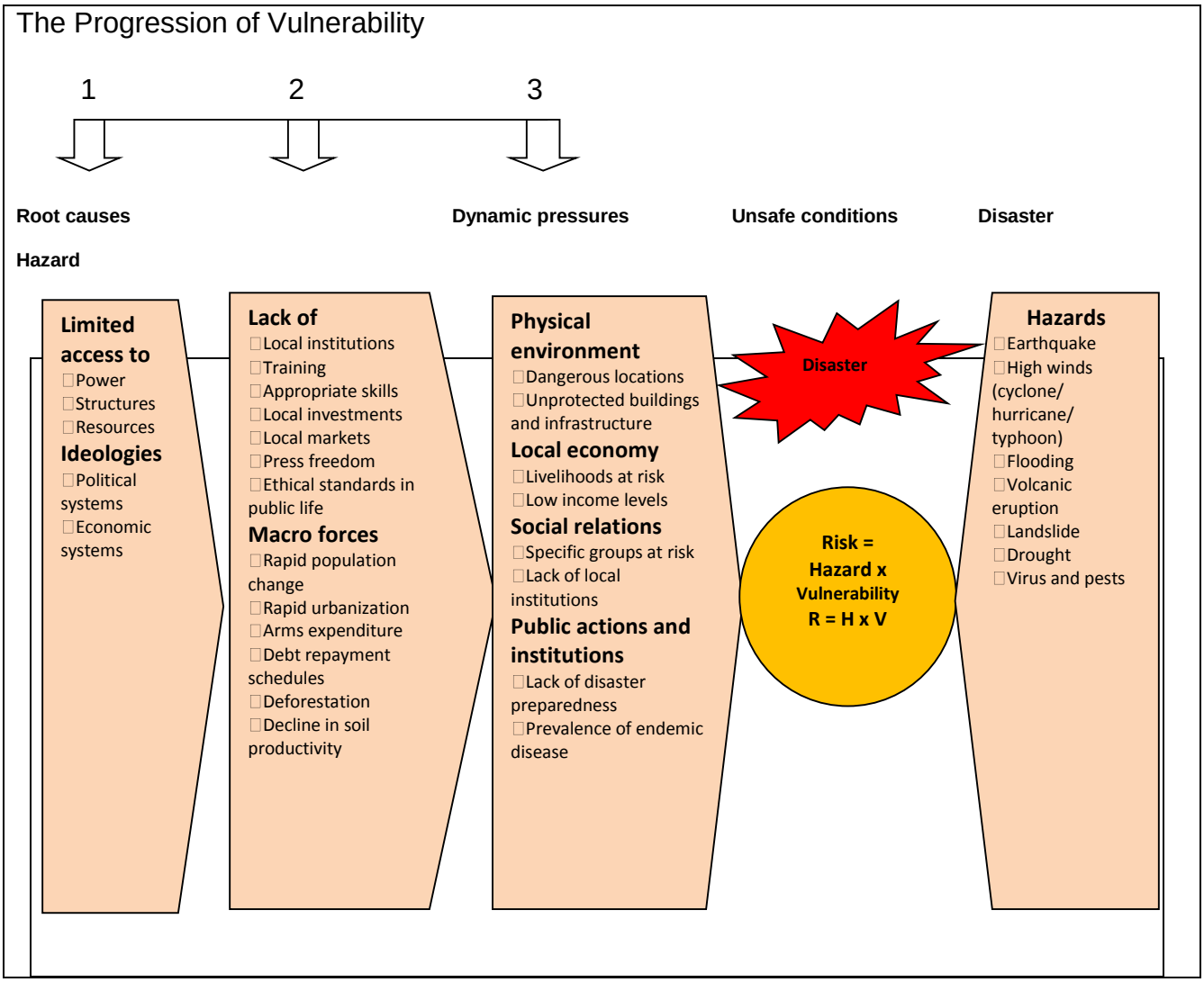


Figure 4: The Pressure and Release (PAR) Model: The Progression of Vulnerability or Disaster Crunch Model. Source: (Wisner, Blaikie, Cannon and Davis 2004:51) 2nd (ed) At Risk: Natural Hazards, People's Vulnerability and Disasters, Oxon, Routledge.

Remarkably, Wisner et al. (2004) and Blaikie et al. (1994) popularized the progression of vulnerability in the disaster realm as the “crunch” or “pressures” that results in a disaster. This is illustrated in the “Pressure and Release (PAR) Model in figure 4 above. Vulnerability therefore cannot be viewed as static. However, it is influenced by the interaction with root causes, dynamic pressures, unsafe conditions coupled with hazards.

When vulnerability is combined with a hazard, it results in a risk which can easily incubate into a disaster as illustrated in Table 2:1 below.

Table 2.1: The Risk Pseudo Equation: Risk = Hazard X Vulnerability

Terminology	**Explanation**
Hazard	Potential threat to humans and their welfare
Vulnerability	Exposure and susceptibility to loss of life or dignity
Capacity/Capability	Available and potential resources
Risk	Probability of disaster occurrence
Disaster	Realisation of a risk

Adapted from SPHERE (2004)

In a milieu, the risk pseudo equation as postulated by (Wisner et al., 2004:51) suggests that Risk = Hazard x Vulnerability. This formula amplifies the disaster ingredients theoretical look and their interface. This gives credence to the notion that one cannot discuss the disaster conceptualization without giving adequate attention to the elements that make up the recipe particularly in Sub-Saharan Africa, Asia and other developing countries with high vulnerability. The scholarship of Wisner et al. (2004:10) hypothesized that: “Until the emergence of the idea on vulnerability to explain disasters, there was a range of prevailing views, none of which dealt with the issue of how society creates conditions in which people face hazards differently”. Therefore, if disasters are not mitigated together with their cataclysmic ingredients of vulnerability, hazards, risk, coupled with low capacity, it is assumed that normal living conditions and development will continue to suffer. In practice, if the capacity/capability or coping capacity or resilience is low/weak, it pessimistically results in a traumatic, ruinous, calamitous disaster and its associated consequences, thereby exceeding the capacity of the affected community or society to cope (Cutter, 1994 and 2001a; Gupta, Kakhandiki and Davison, 1996; Davison, Gupta and Kakhandiki, 1997).

In most cases, capacity to recover from drought disaster effects are challenging for countries like Zimbabwe whose agriculture contributes 20.1% of the GDP (dropping from 40% in 2002) reports ZIMSTAT (2014) and about 60% of the total raw materials for the manufacturing industry (Bautista et al., 2002). This is similar to most African countries where resilience of individuals, community and society is low. Hence, perpetual poverty and high levels of vulnerability will continue to reign.

The taxonomy of disaster literature survey reveals naturalness or the human-induced nature of disasters. Examples of human-induced disasters include; World War I (1914 – 1918), World War II (1939 – 1945). In Africa, examples can be drawn from the Mozambican civil war 1977 – 1993 and the Zimbabwean civil war 1981 – 1987 confined in Matabeleland and Midlands areas. Other African examples include: the 1994 Rwanda Genocide and most recently, the 2013/2015 civil religious/sectarian and ethnic wars in Central Africa Republic and South Sudan, respectively. Similarly, natural-hazard induced disasters in Zimbabwe include: the 2008/2009 cholera outbreak that claimed 4,276 lives, while drought in 2001 affected more than 6 million people, and floods in 2000 killed 70 people (Preventionweb, 2014; WHO, 2009). All these events were disastrous and

increased people's vulnerability. Table 2.2 below highlights some of the major ancient disasters and their impact on human lives.

Table 2.2: Top Ten Worst Disasters: Triggered by Natural Phenomenon

Year(s)	Description of event and Its Consequences
1201	Deadliest earthquake that affected mainly Egypt and Syria claiming lives for more than 1.1 million people.
1347 - 1350	The Bubonic plague that killed almost 33% of the European population believed to have been caused by zoonotic disease and poor hygiene.
1769 - 1773	The Indian famine which claimed over ten million lives. This was equal to one third of India's population at that time.
1845 - 1848	Irish potato famine that is estimated to have taken over a million lives.
1876 - 1879	The China drought that affected crops, livestock and human beings. Over nine provinces affected and over nine million lives lost.
1918 - 1919	The Flu Pandemic struck across the world, resulting in 35 – 75 million deaths. India alone recorded more than 16 million deaths.
1931 -	China floods whose impact was felt in 1931 after three years of consecutive droughts. The Yangtze, Yellow and Huai Rivers burst their banks causing flooding that claimed nearly 4 million lives and affected 51 million people, including their livelihoods, the economy and infrastructure.
1956 - 1961	Chinese famine killed more than 20 million people.
1981 - 1984	Drought in most parts of Africa, including Zimbabwe. Approximately, 20,000 people starved to death each month.
1995 - 1998	Famine and floods in North Korea resulting in more than 3 million deaths.

Top Ten Worst Disasters: Triggered by Natural Phenomenon

Source: http://www.disasterium.com/10-worst-natural-disasters-of-all-time/

[Accessed 23 August 2014] Disasterium

Further examples of disasters in recent years include: Ebola outbreak that paralyzed business and overwhelmed health services in West Africa in 2014 and 2015 Nepal earthquake. With the above information serving as a foundation, it can be argued that understanding disaster theoretical look requires a multi-dimensional approach. In Zimbabwe, a limited view to disaster and its associated ingredients may result in increased vulnerability and weakened resilience that makes it difficult to bounce back from the realms of poverty.

In summary, disaster therefore is an encompassing term that includes aspects of hazards, vulnerability, capacity or capability and risk. Hence, in unpacking the disaster and development nexus one cannot ignore hazards, vulnerability, community's capacity and their exposure to risks as these ingredients can accelerate the incubation of disasters or negatively impact on development strides. However, disaster management and development practitioners tend to ignore this union marriage between disaster and development leading to parallel programming whose consequences are recurrence of disasters and erosion of development gains, particularly in developing countries like Zimbabwe. Therefore, contributions in this study a meant to provoke disaster management and development practitioners to

re-think the way they address issues of disaster and development. Most importantly, disaster brings in an opportunity for development: modernization and freedom. Hence, the need to discuss the correlated nature of disaster and development.

2.4 UNDERSTANDING AND APPRECIATING THE MEANING OF DEVELOPMENT

Development is an important aspect of society in both rural and urban areas of Zimbabwe as it helps in curtaining poverty and vulnerability. Hence, in unpacking the disaster and development linkages, it is equally important to understand and appreciate the meaning of development. It is worth mentioning that, development is conceptualized from several angles, similar to disaster conceptualization discussed earlier has been conceptualized from several angles. For instance, Sen (1999) asserts to development as freedom and enhanced capabilities. In this regard, Sen's conceptual view of development is that development should enrich human lives, not richness of economy which is only a part of it. On the other hand, progressive development proponents like Kanbur (2006) argue that there is no unique or uniform answer to the concept of development because it is anchored on values and on alternative conceptions of good life. Hence, development is philosophized from diverse scholarly views based on the scholar's

background or orientation. Concurring with the issues of values suggested by Kanbur (2006) above, the scholarship of Todaro and Smith (2006) in conceptualization development emphasize on three core values of sustenance: that is the ability to meet basic needs, self-esteem: a sense of worth and self-respect, and freedom from servitude. These values are presumed to contribute to good life contextually. However, the perceived good life cannot manifest steadily in a country like Zimbabwe with high vulnerability and frequent disasters with intensity. For instance, recurrent droughts in 2001, 2007/2008, 2010, 2015/2016, floods in 2000, 2001 and cholera outbreaks in 1996 and 2008 as reported by PreventionWeb (PreventionWeb, 2013).

Comparably, the three development core values postulated by Goulet (1971 cited in Todaro and Smith, 2006:21) are analogous to Maslow's (1954) hierarchy of needs where in motivation the basic needs are supposed to be satisfied first before one progresses to esteem and self-actualization levels. Figure 5: clearly illustrates this motivation and development comparative analysis. Most importantly, both views by Goulet (1971) and Maslow's (1954) centre on individuals who should be free from vulnerability and effects of disasters for effective development to take place. Notably, a motivated individual is more likely to be productive either in the formal or

informal sector. In this regard, it results in economic growth and improved lives/livelihoods that can cope with disaster jolts.

In other words, development does not happen in a vacuum or in isolation. It takes place in a society where basic needs, esteem and self-actualization takes place too. A society that is, at times, ridden with poverty, high levels of vulnerability, multiple hazards and extreme exposure to disasters, coupled with weak resilience or capabilities.

Figure 5: Development Core Values Compared to Maslow's Hierarchy of Needs

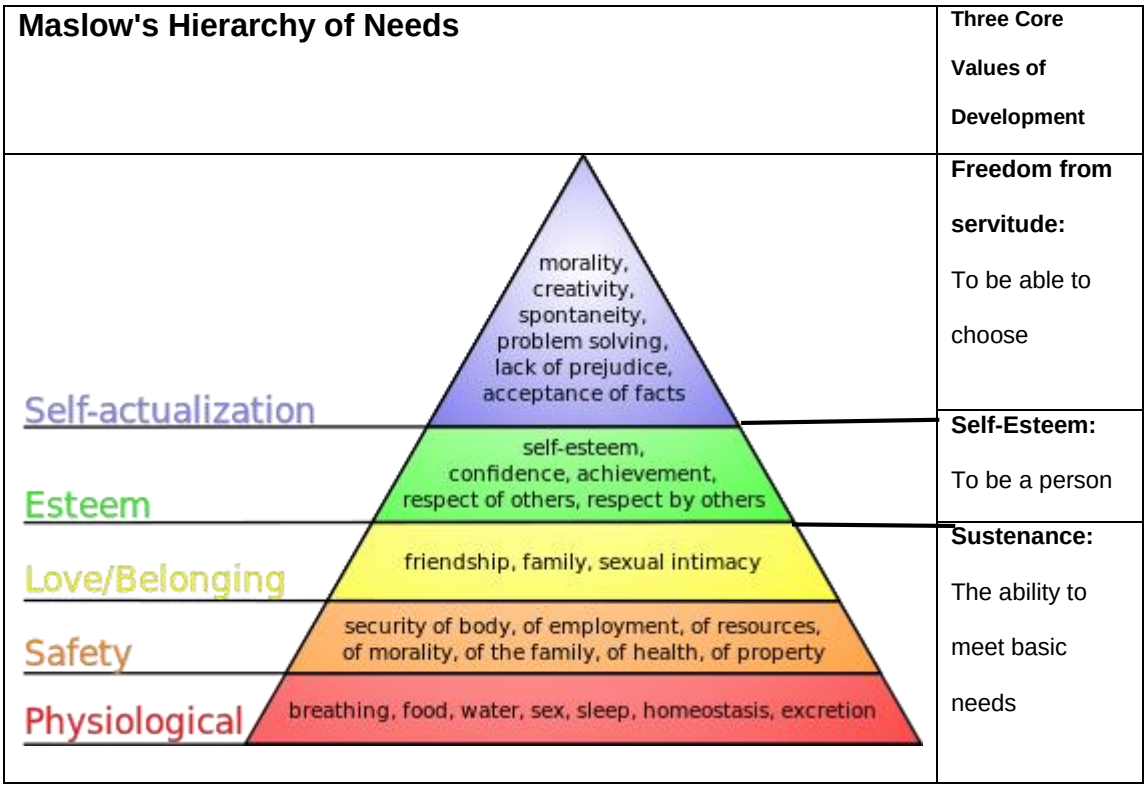


Figure 5: Development Core Values compared to Maslow's Hierarchy of Needs. Adapted from: Maslow (1954), Goulet (1971 cited in Todaro and Smith, 2006).

https://web.archive.org/web/20100211014419/http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/maslow.htm [Accessed 13 June 2015].

If chronic poverty is not eradicated and development is not sustained, as suggested by Todaro and Smith (2006) and Sen (1999), there are high chances of a relapse or high progression of vulnerability leading to a disaster. In such a case development strides are wiped out thereby vulnerability and poverty taking a toll order on historical legacy that affects human development in totality.

Todaro and Smith (2006:22) further suggest that development should be rooted in at least three of the following objectives:

1. To increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health and protection;
2. To raise levels of living, including in addition to high incomes, the provision of more jobs, better education, and greater attention to cultural and human values, all of which serve not only to enhance material well-being but also to generate greater individual and nation self-esteem; and
3. To expand the range of economic and social choices available to individuals and nations by freeing the servitude and dependence not only in relation to other people and nation-states but also to the forces of ignorance and human misery.

Consistent with the above views, Sumner and Tribe (2008:11) suggest that "... 'Development' encompasses continuous 'change' in a variety of aspects of human society. The dimensions of development are extremely diverse, including economic, social, political, legal and institutional structures, technology in various forms ... the environment, religion, the arts and culture". For these reasons, development cannot be divorced from disasters, risks, vulnerability and hazards which are part of society. Because, human beings interact with the environment. Likewise, the scholarship of Goulet (1971 cited in Todaro and Smith 2006:21) supports the goal-oriented aspect above by postulating that; "Development is legitimized as a goal because it is an important, perhaps even indispensable, the way of gaining esteem". Hence, development should be visionary viewed in totality. Sumner and Tribe (2008:11) summarized their conceptual views on development graphically as illustrated in Figure: 6 below.

Figure 6: What is ‘Development’?

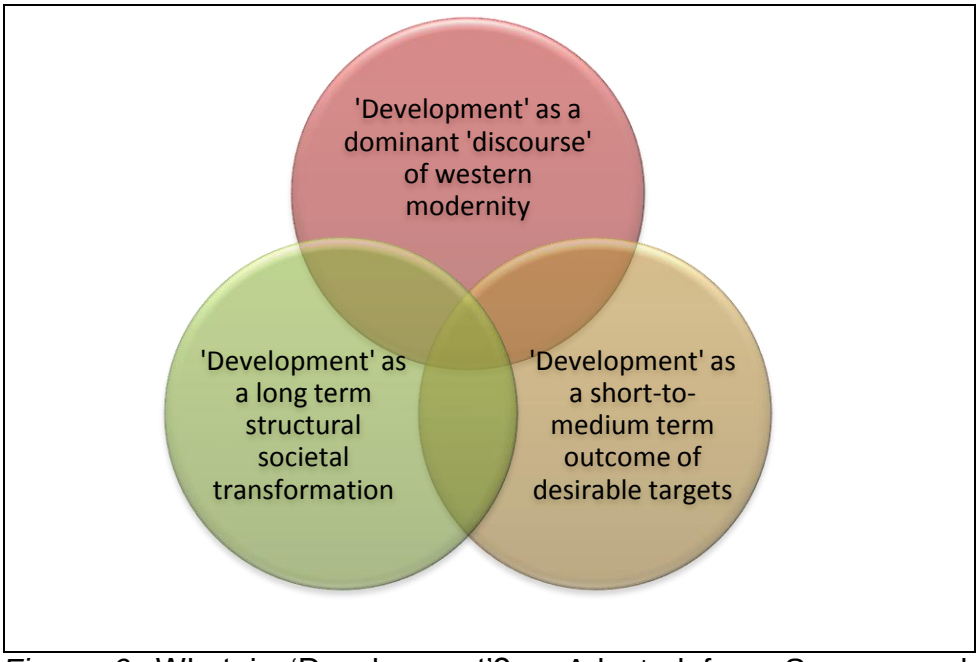


Figure 6: What is ‘Development’? – Adapted from Sumner and Tribe (2008:11), International Development Studies: Theories and Methods in Research and Practice, London, Sage.

The study adopted the values-based approach definition in conceptualizing development as espoused by Todaro and Smith (2006) and borrows heavily from development theoretical views suggested by Sen (1999). Admittedly, both views give a thrust on individuals and institutions they work for or that serve them. Hence, this allows discussing vulnerability, disasters and

development in rural, peri-urban and urban areas in Zimbabwe. Notably, development, vulnerability and disasters affirmatively or negatively affect both rural and urban areas though at times at varying degrees depending on individual, community and institutional capacities or susceptibility. In other words, both rural and urban people are entitled to development in any country including Zimbabwe. The same people have political, economic, social, technological and environmental rights. Hence, disaster and vulnerability reduction and development programmes should be afforded to all citizens through appropriate and pragmatic policy frameworks. Furthermore, development conceptualization by Sen (1999) and Todaro and Smith (2006) provides a platform to discuss theoretical aspects like modernization, capabilities and sustainable development and how they relate to concepts of disaster and vulnerability in society.

2.4.1 Modernization and Disaster

In the field of social sciences, modernization can be traced to the time of Industrial Revolution that began primarily in England during the last quarter of the 18th century which ushered in a new era of mass-production and mass-consumption dictated by the market economy. In other words, there was a move from hand production approaches to automated and machine assisted mass production across all sectors, including agriculture as well as

among individually used gadgets (Mark, 1996). This was move that was perceived to mitigate disaster effects, reduce poverty and vulnerability. However, in developing nations poverty, vulnerability and predictable hazards continued to escalate albeit the move to modernity. Summing up the above views reveals that modernization created a myth that purported to be a panacea of all problems in the development discourse.

Precisely, modernization is therefore a key contributor to environmental disasters and increased vulnerability, especially in developing and emerging economies like Zimbabwe, where industrial toxic waste has polluted water bodies. Fundamentally, modernization, mechanization, automation and more generally technological advancement will not be in a position to solve environmental degradation and climatic variations. Instead, sustainable development is compromised at the expense of modernity through impact to the environment and its biotic and abiotic resources. However, modernization consequences to the environment, arguably, can be rescued limitedly by basic facts that strongly suggest that substantial impacts to the ecosystems predate modern era by thousands of years (Turner et al., 1991). Though, modernization has fast-tracked ecological impact dramatically which has resulted in altering the global environment, including the land cover of vast areas on earth (York, Rosa and Dietz,

2003). This can be exemplified by increased desertification and deforestation, as well as the extinction of flora and fauna. Furthermore, in recent years the chemical composition of the atmosphere has changed due to modernization consequences resulting in depletion of the ozone and accumulation of greenhouse gases (York, Rosa and Dietz, 2003; Harrison and Pearce, 2000; Turner et al., 1991; Vitousek et al., 1997). Generally, modernization through unplanned development and exploitation of natural resources has had an impact on lives of people for example; water pollution in Harare's water catchment areas, and increased environmental degradation has resulted in erosion as well as siltation of major rivers.

Furthermore, in most developing countries like Zimbabwe, modernization has had its toll on poor waste management, particularly the end-of-life management. Resultantly, chemicals, oils, fossil fuels, tar sands, plastics and other materials end up polluting the environment and clogging drainages causing flash floods in urban areas. In this view, this increases toxicity, and eutrophication (over-fertilization caused by pollution with nitrogen and phosphorus) in the environment which have a negative effect on people's health, especially the poor, when fresh water bodies get polluted. In addition to the above, mining extractives and refining also contribute to environmental degradation. Environmentalist argue that

demand for energy is high at extraction and refining stages of mining minerals. Henceforth, this may cause substantial air, water and soil pollution (Althaus and Classen, 2005; Classen et al., 2007; Norgate et al., 2007; Norgate and Ranklin, 2001; Allwood et al., 2010). UNEP's (2010) prominent study on the impact of the environment asserts that metals are not degradable because once they are in the environment, they accumulate in soils and sediments. In such a scenario, metals affect human and ecosystems health, especially in areas where metals tend to accumulate (Bard, 1999). Furthermore, most open cast mining leaves open pits that can trigger landslides. Equally, the environmental damage caused compromises sustainability of the ecosystems. Pragmatically, all this points to a strong synergy between modernization and its effects of increased vulnerability, poverty and disasters.

In some countries, modernization has enhanced loss of biodiversity including biotic resources like fisheries and forests according to scientific research carried out by UNEP (UNEP, 2010). Similar effects have been felt on issues related to deforestation, soil erosion, fresh water scarcity, pollution, depletion of the ozone layer, and climate change tend to progress rapidly at the expense of modernity (UNEP, 2005; UNEP, 2007; IPCC, 2007; Howes, 2009). This has been worsened by haphazard approach to

modernization and urbanization in developing countries' major cities, for example: Dhaka (Bangladesh), Jakarta, Kolkata, Manila, Kabul and many other cities. When all the above modernization impacts are aggregated, they point to a gradual increase in hazards that incubator easily into disasters in the guise of modernity and development. Consequently, the development gains are outweighed by the losses, especially when disasters strike vulnerable communities whose resilience maybe low. Theoretically and practically, such weaknesses in modernization may be salvaged to some extent by ecological modernization thesis which gives a thrust on better technological and institutional design (Howes, 2009). More specifically, York and Rosa (2003:275) clearly articulating ecological modernization suggests that modernizing institutions helps in reducing environmental problems and facilitate progression towards sustainability.

Contextually, guided by the regulatory principles or policies and their implementation, the myopic look of modernization may completely overlook the environmental issues which are unsustainably extracted at the expense of maximizing on profits. Accordingly, this results in substantial environmental degradation. This is epitomized by the 2010 Gulf of Mexico oil spill that affected coastal areas/aquaculture. Likewise, air pollution in countries like China, deforestation in most African countries in search of

hardwood timber and mining extractives in Zimbabwe and across the globe. In this sense, modernization as a development agenda becomes a catalyst for increased vulnerability that exposes society to multiple hazards and environmental disasters, instead of promoting sustainable development or enhancing human capabilities and resilience. Hypothetically, this confirms Stephenson's (1994:10) hypothesis that "development programmes can increase an area's susceptibility to disasters".

Notably, within the modernization paradigm, mechanization and industrialization are key ingredients meant to spur economic growth (Armer and Katsillis, 2000). In practice, mass-production using greenhouses resulted in increased profits mostly in developed countries, but the effects of global warm as result of greenhouses gases where felt globally, including in poor countries. Africa has not been spared from the greenhouse effects as it is witnessing climate change and climate variability that has resulted in frequent and recurrent droughts. Typically, the rural isolated communities do not exhibit sufficient financial and technical capacities to manage the risks associated with (climate risk) in the context of climate change and adaptation (Skoufias, 2012). Thus, the celebrated gains through greenhouse mass production quickly fade away for most developing countries in Africa, Asia and South America. In such cases, development is

viewed as an incubator of vulnerability, poverty and hazards that lead to climatologically related disasters. In sum, the ecological health of the environment literary gets punctuated by huge environmental degradation, poverty, vulnerability and a spiral increase in environmental hazards.

In addition to the above, the use of chemicals/fertilizers as opposed to organic farming has contributed to environmental pollutants that are hazardous health in nature. Similarly, a shift from traditional conservation farming in countries like Zimbabwe has contributed to increased soil erosion in areas without good contour system. Hence, one can conclude that development anchored on modernization only is not sustainable. Though achieving a 'disaster free or disaster proof world' may not be realistic, given that disasters have been in existence pre-modernization era. However, the rapid growth and modernization in countries like China and India have also resulted in a surge in environmental disasters through air and water pollution (Panda, 2014). Likewise, high-rising buildings in many countries may cause mass fatality caseloads in the event of an earthquake. In fact, lessons can be drawn from Nepal's 2015 earthquake where buildings were reduced to rubbles because of the poor structural quality. Hence, one can conclude that development anchored on modernization only is not sustainable without paying attention to building codes.

Furthermore, disaster response to remote locations maybe delayed when road and communication infrastructure is cut off, thereby delaying the much needed life-saving humanitarian assistance. In addition, the use of chemicals/fertilizers as opposed to organic farming has contributed to environmental pollutants that are hazardous health in nature. Similarly, a shift from traditional conservation farming in countries like Zimbabwe has contributed to increased soil erosion in areas without good contour system.

In the same vein, some aspects of modernization ignored fundamental human rights and ecological facets by focusing exclusively on economic richness. Hence, this prompted scholars like Sen (1999) to advocate for capabilities and human development: ethics of development in totality not just richness of economy. A new strand of literature from D'Alessandro (2008) suggests that although the introduction of new modes of production and the modernization of infrastructures imply a greater stability of wages, capitalist decisions can easily exacerbate the risk of famine. Therefore, increased mass production of agricultural produce did not necessarily mean weaning the vulnerable people from the servitude of poverty especially those in rural areas. On the other hand, weaknesses in modernization

theory and perceptions did not mean that there were no recoupable benefits.

Generally, as a result of modernization, Chaudhary (2013:36) asserts that "…new technologies have transformed almost every aspect of life". This includes the use of technology in disaster preparedness and response such as; global positioning system (GPS), smartphones, geographic information system (GIS), geo-sensors and hydro-sensors for flood risk management. Likewise, the use of internet, laptops, computer-aided designs, google maps and satellite dishes in hazard mapping, vulnerability analysis and disaster risk management.

Development scholarship views from Armer and Katsillis (2000) reveal that at its core, the modernization theory suggests that advanced technology does not only produce economic growth in societies but cultural and structural changes, including good governance. In the field of disaster risk management, good governance and institutional preparedness for response capacity are critical in saving of lives and livelihoods. Thus, one can draw good examples from the way the Philippines was able to quickly recover from the effects of typhoon Haiyan because of good policies, good governance, institutional preparedness for response capacity as well as

individual/community resilience built over time to withstand disaster shocks. However, in contrast, countries like Haiti in the case of 2010 earthquake, Liberia, Guinea and Sierra Leone (2014/2015) Ebola outbreak could not quickly recovery from the disasters and vulnerability immediately. This can be attributed to weak governance/institutional capacity, cosmetic implementation of policies and marginalization of the poor/vulnerable people in society. Drawing from the Philippines examples above, on the use of GIS and GPS and other mechanical gargets in disaster management, one is justified to suggest that modernization theory has a lot of positive aspects that benefit development, mitigate vulnerability, reducing disasters and their effects to some extent. On the other hand, as a result of modernization, some disasters maybe accelerated. For instance, the increasing reliance on raw materials and creating infrastructure such as highways, hydroelectric dams, irrigation projects, mining/extractives has adversely affected environment and climate.

Moving forward, the above modernization critique can be rescued by capitalizing on its strengths. For example, when disaster affected communities are cut off in the case of floods or are not accessible due to conflict (South Sudan 2013/2015, Syria 2011/2015, Afghanistan protracted conflict since 2002) innovative approaches like ‘cash transfers’ (can be used

to reach out to those affected if food, non-food items will be still available in the market. Zimbabwe can benefit from already existing similar programmes like ecocash, telecash and onewallet, while Kenya has the M-Pesa. In terms of disaster economics, 'cash transfers' are swift and cut down on transportation cost, as well as reduction in the risk of leakages and theft. Similarly, cash transfers can be electronically managed or monitored. More specifically, cash transfers have been used to address social and economic vulnerabilities such as poverty, old age, gender, disability or unemployment and to complement household income in times of exposure to disaster impact (UNICEF, 2006).

In addition to the above modern technological applications like 'EcoFarmer' can mitigate vulnerability to meteorological/agricultural drought. Accordingly, EcoFarmer is Zimbabwe's first micro-insurance product intended to insure agricultural inputs and crops against drought or excessive rainfall. It also provides insured farmers with weather information, farming tips and information on when and where to sell, and the best price for their produce. Econet (2015) suggests that farmers use mobile phones as an information and communication tool. Hence, the through modernized technology farmers access technical and market information that can improve their farming practices, yields and incomes. In this case, one

cannot double the substantive value of modernization in reducing vulnerability and realms of poverty.

Finally, through modernization technology like Geographic Information System (GIS) can be used to map hazards/vulnerability, forecast or model disaster impacts, provide spatial population and geographic information and provide early warning information in the case of recurrent and predictable disasters like floods, typhoons, storm surge, tornados, landslides, avalanches, droughts, epidemics, volcanic eruptions and conflicts. Practically, GIS provides valuable information before, during and after a disaster. For example, satellite information can be taken for an area like Muzarabani in Zimbabwe just before heavy rainfalls, and comparative ones can be taken during and after flooding. This information can be used to visualize the disaster impact, inform communities through an early warning system (EWS) to be alert or to evacuate. In addition, disaster practitioners can zoom-in the information to determine the population that is affected based on spatial and demographic or population census information. Similarly, the same GIS can be used for seismic disasters like earthquakes for monitoring, locating earthquake epicentre, measuring impact and extent of shocks. Hence, response to the earthquake disaster affected population is accelerated based on precise information.

2.4.2 Capability approach and Disaster

The capability approach (CA) espoused by Sen (1999) also plays a key role in conceptualizing development and how it relates to disasters and vulnerability. Basically, Sen's theory focuses on people especially the poor/vulnerable and their Capabilities. For Sen, development means expansion of people's capabilities. Hence, freedom is a vital element of the individual centric capability approach (CA) of development (Goodpal, 2015). In the development discourse, Sen's capability theory emerged as a paradigm shift that emphasizes on capitalizing on opportunities to assess people's positions in the development discourse.

Theoretically, the capability theory posits that rather than talking of philosophical equality of people it explicitly recognizes the individual differences coming from age, gender, race, creed, class, health, intelligence, education/professional background and so on. It also accepts that people's capacities are influenced by external factors such as; people, social circles, access to infrastructure and public services, freedom to speak and participate, and so on (Goodpal, 2015). In this regard, Sen (1999) suggests that development should be guided by inclusivity and capitalize on individual uniqueness to facilitate acquisition of essential life skills and

resources to enhance freedom and capacity to bounce back from vulnerability and disasters. Hence, sustainable development is catalysed by paying attention to the heterogeneous nature in society.

In addition, Sen suggests measuring the welfare of individuals by focusing on their capabilities (what an individual is able to do or be) instead of analysing the welfare problem through resource based approaches (e.g. income and expenditure) and generating a framework for comprehension of context attributes (Yorulmaz, 2008). Pointedly, the capabilities approach can be viewed as an outcome based theory that holistically looks at vulnerability reduction based on individual capacities. In the other words, Sen's capability approach can be viewed as an outcome based theory applicable in managing disasters which normally have a local impact but with a trans-boundary consequence. Applying this view to local context, shows that when there is investment in building someone's capabilities there are high chances that the acquired skills can be used for both development and disaster mitigation. In the case of development, it can result in increased productivity and economic growth, while in disaster mitigation the outcome maybe swift response to a catastrophic situation because of multi-skilled nature that enhances individual/community resilience over time. The illuminating view shows that in the context of

disaster response, when affected people need food or hygiene kits, offering them blankets can be seen as a waste of money and resources (Yorulmaz, 2008). Therefore, it is important to conduct thorough vulnerability and needs assessments through comprehensively designed tools that capture most aspects such as; health, shelter, water and sanitation, food/nutrition, psychosocial needs, gender dynamics, culture, religion, age, social roles, protection and other multi-sector needs.

Remarkably, achieving a disaster-free world may not be pragmatically feasible. However, investing in holistic development of people in society narrows the rich and poor divide. Thus, the scope of the capability approach is quite enormous. It considers all possible factors – personal, economic, social, cultural, political, technological and environmental as well as gender. These key factors should possibly influence human capabilities which dictate the real well-being of people (Goodpal, 2015).

Sen (1999: xii) postulates that “Development consists of the removal of various types of ‘un-freedoms’ that leave people with little choice and little opportunity of exercising their reasoned agency”. Further, the capability development paradigm is observed to have strong relevance for moral evaluation of social arrangements beyond the development context, for

example gender justice considerations (Wells, 2012). However, in Africa, particularly in the agricultural sector and other fields, most governments fail to pay attention to gender concerns. Hence, the poverty circle rages on and on from generation to generation. This is worsened by increased mortality on pregnant and lactating women, while the girl child is not prioritized for education. This is mainly due to irrational governance policy implementation.

For instance, Africa has had her fair governance challenges that have seen the continent as a major importer of food to mitigate vulnerability, despite vast natural agricultural resources lying to waste. This is because African leaders have been playing around with customary laws thereby depriving women their land rights as smallholder farmers, yet they constitute 60 – 70% of the labour force, (Rahim, 2011; World Bank, 2007; Rosset, 2006; McMichael 2000). It is without qualms that failure to address these disparities vulnerability in Africa will continue and development will be on a downward trend. Unfortunately, this leaves multitudes of people to swim in the realms of poverty, continue to suffer from disasters and underdevelopment coupled with huge food imports. At the same time, African leaders continue to rhetorically discuss gender protocols, food insecurity, disaster impacts and poverty at their summits.

Clifton (2013) is of the view that Sen (1999) alerts the reader that poverty, unfulfilled elementary needs, the occurrence of famines, the violation of political freedoms and neglect of the agency of women remain today despite ‘unprecedented opulence’. Furthermore, Sen (1999 cited in Clifton, 2013) makes it clear that previous strategies to reduce these catastrophes (disasters) are erroneous. Hence, the capability approach focuses on human flourishing as the entry point to the problem of poverty and global inequality rather than economic growth (Reid-Henry, 2012). Additionally, Sen (1999) contends that all human beings are equally entitled to enjoy a life that they value. Despite the institutional capacity and resource challenges faced Zimbabwe the country has tried to invest comprehensively on its population. This included progressive gender policies that positively advantaged the girl child in terms of access to education. In this regard, women a valued in society and they play a key role in poverty reduction including access to land through the agrarian land reform programme introduced in 2000s where women were allocated a percentage in the allocation system. In addition, women, men, boys and girls are all involved in disaster management and development programmes. Additionally, fully fledged ministries on gender, youth/women empowerment, development planning, small-scale enterprising and agriculture do exist in Zimbabwe.

However, in terms of disaster management, a small unit is housed in the ministry of local government with a very thin human resource capacity at provincial and district levels. In such a case, disaster risk and vulnerability reduction are limitedly cascaded to community levels. Hence, the holistic focus on people and their capabilities, as espoused by Sen (1999), may be missed in a bid to achieve resilience to calamity. The issue of capability is synonymous with resilience-building in the field of disaster management.

The resilience of rural and urban communities in Zimbabwe is determined by the degree to which individuals and communities have the necessary resources, knowledge and organized leadership both prior to and during disaster times. However, such disaster preparedness and management capabilities remain a challenge in the case of Zimbabwe, where even the legislative framework still refers to “Civil Protection” with a thrust on response as opposed to preparedness and disaster risk reduction.

It is worth noting that capability has a much deeper meaning than just physical and mental capacity as suggested by Sen (1999), though Collins (2009:20) views the concept of capacity as synonymous with capability in the disasters and development discourse. The (ISDR 2009:5) defines capacity as: “The combination of all the strengths, attributes and resources

available within a community, society or organization that can be used to achieve agreed goals". It can be further argued that "... the concept of capability lies in at the heart of much of the development and disaster reduction discourse..." (Collins, 2009:21).

Additionally, Dreze and Sen (2013: ix - x), in their quest to amplify the definition of development in relation to capabilities, postulated that:

> Development is best seen in terms of an expansion of people's basic freedoms, or human capabilities. In this perspective... ... recognize the importance of two-way relationships between economic growth and expansion of human capability, while keeping in mind the basic understanding that expansion of human freedom and capabilities is the goal for which the growth of GDP, among other factors, serves as important means. Growth generates resources with which public and private efforts can be systematically mobilized to expand education, healthcare, nutrition, social facilities, and other essentials of fuller and freer human life for all".

Dreze and Sen (2013:x) reiterate that development entails "...the expansion of human capability, in turn, allows a faster expansion of resources and production, on which economic growth ultimately depends".

The growing body of development literature has demonstrated that ‘development’ should be inclusive in nature, with growth and development aiming at improvement in peoples living conditions. The breakdown of key social services and social safety nets like healthcare, nutrition, water supply, sanitation provision, ecosystems management and shelter provision can easily trigger catastrophes, on the backdrop of weak capabilities and resilience. For example, Zimbabwe suffered a major cholera outbreak in 2008/2009 claiming 4,288 lives when health and social services had broken down (WHO and Ministry of Health and Child Welfare, 2009). Once vulnerability is high, as espoused by post-conventional disaster literature scholars, there are high chances of sliding into a disastrous situation. In such cases, the disasters and development linkages are reinforced even in situations where economic growth is thriving. Ironically, economic growth does to equate to holistic development.

In view of the above information, Dreze and Sen (2013) highlighted that while India is one of the rapidly growing economies in the World, it has fallen relatively behind in the scale of social indicators of living standards. In contrast, countries like Bangladesh are performing much better compared to India because of its huge proportion of under-nourished children, lack of

systematic health care, extreme deficient, and half of the homes without sanitary facilities like toilets (Dreze and Sen, 2013). The holism of development should therefore take note the inter-dependence with other factors and the interface with calamities, for development to be meaningful. Otherwise, it will remain cosmetic as alluded to in the Indian example.

Notably, Sen's (1999) definition of development puts forward the need for a 'just and humane' society for development to be realized, by freeing them from un-freedom. The general assumption suggests the attainment of basic human rights that does not excludes or marginalizes people in society, but the extent to which this is achieved in society remains questionable given the structural nature of society or its hierarchical social or economic classification. The views by Sen (1999) on development as a freedom cannot go unchallenged. Accordingly, O'Hearn (2009) opines that the progressive and humane aspects of Sen's thesis are outweighed by several problems such as; individualism, localism, and lack of historical understanding. However, the inclusivity of the capabilities approach is a spring board for sustainable development in emerging economies like Zimbabwe. In addition, one of the key strengths of Sen's capability framework is that it is flexible and exhibits a considerable degree on internal

pluralism, which allows researchers or development/disaster management practitioners to develop and apply it in multidimensional ways (Alkire, 2002).

2.4.3 Sustainable Development

The concept of sustainable development has its pedigree initially manifesting itself as a rhetoric phrase used by politicians, international institutions and development workers as highlighted in the literature survey. Arguably, the World Bank (2004) suggests that at its infancy, the concept of sustainable development lacked uniformity in interpretation and conceptualization. Similarly, Escobar (1995) postulated that: “sustainable development” remains a vague and ambiguous term, difficult to define and even more difficult to implement just as the term development. However, despite these limitations some scholars like Todaro and Smith (2006) argue that the core focus of sustainable development can be rescued through an intra-generational and inter-generational thrust (Haines, 2000 cited in De Beer and Swanepoel, 2000:31). Sustainable development is part of the disaster risk reduction framework, a conceptual framework adopted for this study as put forward by ISDR (ISDR, 2013).

Sustainable development is succinctly defined by 1987’s Brundtland Commission, as ‘the development that meets the needs of the present

without compromising the ability of the future generations to meet their own needs' as espoused by WCED and ISDR (WCED, 1987:45; ISDR, 2009). Therefore, in other words, sustainable development emphasizes the importance of protecting natural environment and resources as key assets for development so that current and future generations' needs are met. However, in both rural and urban areas in Zimbabwe indiscriminate cutting down of trees without replanting some is rampant. Hence, it needs a pragmatic shift in behaviour/practice to curtail deforestation and environmental degradation, which have been the root causes of siltation and gulley erosion. Notably, major rivers like Save, Mwerahari, Nyazvidzi in Buhera, Manyame in Harare and Musengezi in Muzarabani are no longer perennially flowing as they used to be in the 1980s. Unfortunately, such environmental degradation and deforestation are happening despite Zimbabwe having one of the best-crafted laws (Environmental Management Act) popularly known in Zimbabwe as EMA.

A review of contemporary literature reveals that sustainable development has gained ground both conceptually and in pragmatic application in the development as well as disaster management fields. Hence, the thrust is on the need for a paradigm shift towards sustainability of resources. In most countries in Africa including Zimbabwe, it is a daunting challenge to achieve

the sustainable development goals, because firewood is used as the main form of energy for cooking, heating, lighting in rural areas, in tobacco furnaces and well as hardening bricks that are used for most structural construction.

The global linkages between the 2030 Agenda for Sustainable Development Goals (SDGs), and the Sendai Framework for Disaster Risk Reduction 2015-2030 clearly shows that the sustainable development concept or framework has become the development literature 'mantra' linking with disaster risk reduction (DRR) especially the Ecosystems DRR approach that gives a thrust on the efficient management of the environment and natural resources as well as the need for climate change adaptation. Zimbabwe herself is signatory to these global agendas and frameworks, but she has not been capitalizing much on eco-tourism as observed in areas like Muzarabani where wildlife that used to be touristic attractions have moved to neighbouring Mozambique or other areas within Zimbabwe. Communities, around some of these potential eco-tourism areas are involved in poaching and burning of veldt fires as a hunting technique. Similarly, ineffective application of policies such as EMA and city by-laws building have been mushrooming on wetlands in Harare, Chitungwiza, Ruwa and Norton. A practice that affects potable water quality

in water reservoirs includes Harava/Manyame dams and Lake Chivero. Likewise, toxic waste discharges in major water bodies in urban areas have resulted in the use of huge quantities of chemicals in an effort to purify potable water for residents in major urban areas. In this case, the sustainable development focus fades away incrementally and hazard and vulnerability exhibits.

However, sustainable development has its strengths in resilience or capabilities building. This is enhanced with the use of sustainable livelihood frameworks (SLF). Variably, this promotes equity among heterogeneous groups in society, which was a key weakness of sustainable development at its infancy or initial conceptualization stages. A clear analysis of sustainable development show that it provides a paradigm shift from looking at development economically or with a modernity focus to a thrust on wholesome view of natural and environmental resources use with the future in mind.

Taking a global focus, contemporary debates on sustainable development includes: the 2012 'Rio+20 conference' that renewed and reaffirmed commitments made earlier on. Additional examples include: the 1987 Brundtland Report, 1992 Rio Conference and the 2002 World Summit on

Sustainable Development (WSSD) which reaffirmed the international community's commitment to 'full implementation' of Agenda 21, alongside achievement of the Millennium Development Goals and other international agreements (SIDSnet, 2013; The World Bank, 2004; IISD, 2010).

Conceptually, sustainable development is anchored on three core elements viz; social, economic and environment. These key elements have already been cited by Dreze and Sen (2013) and Todaro and Smith (2006) as key factors to holistic conceptual understanding of development. Guided by the three key interrelated elements, sustainable development could be probably called 'equitable and balanced' which means for development to continue indefinitely, it should balance the interests of groups of people in society and future generations. Thus, the key elements of sustainable development enhance development and mitigate vulnerability/poverty and calamities if they are effectively put to practice. Illustratively, the key elements of sustainable development are shown in Figure 7: below.

Figure 7: The Key Elements of Sustainable Development

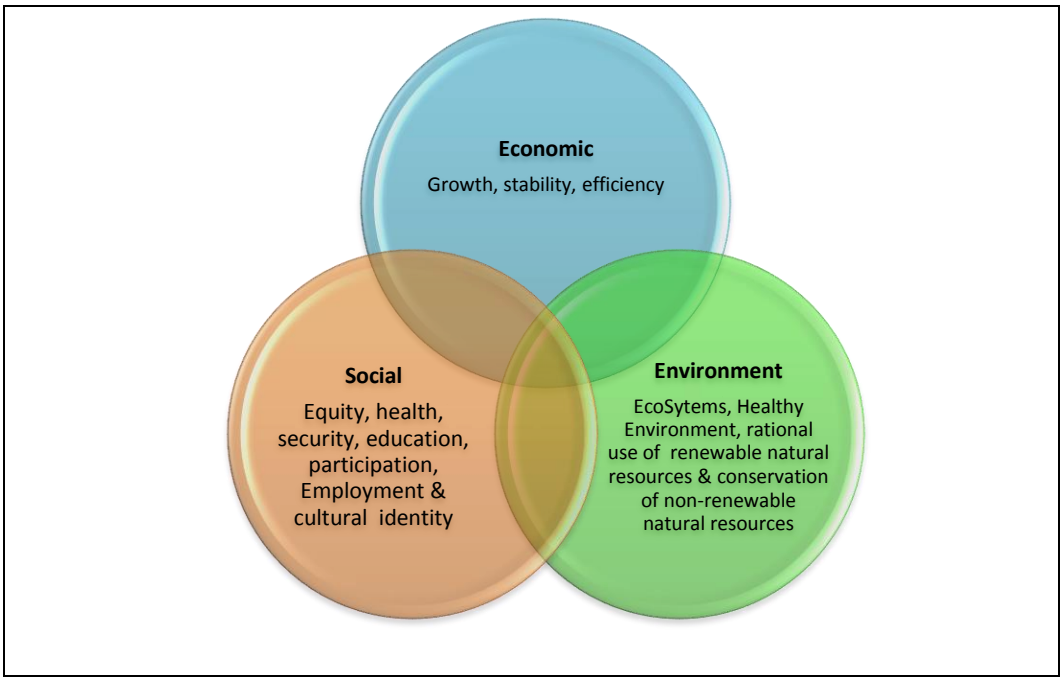


Figure 7: Key Elements of Sustainable Development – Adapted from The World Bank (2004:10), What is Development? – Washington DC, The World Bank.

Remarkably, sustainable development became the 'game-changer' in the development debate globally. This has been further strengthened through global frameworks like Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) (MDGs, 2000; SDGs, 2015). However, pragmatic equity crystallization remains a challenge in some cultures or societies in Africa and Asia. In particular, because of disparities in: gender, ethnicity, educational, social, political, religious, economic and

technological backgrounds passed on from generation to generation in the kingdoms of poverty. It is worth mentioning that disasters and development affects gender differently, with women and children being more exposed particularly in developing countries like Zimbabwe UNICEF (2014). Understandably, development cannot be sustainable if it fails to analyse the hazards, vulnerability, risks and capabilities in which it exists.

Finally, it is critical to acknowledge efforts being put in place by public authorities, public institutions and individuals towards the use of renewable, sustainable and eco-friendly solar energy. Key examples, include installation on solar powered water geysers, solar street lights and solar powered traffic lights in some areas in Harare. Similarly, the Zimbabwe Electricity Supply Authority (ZESA) has been encouraging the use of energy saving bulbs for lighting in domestic and business areas. This is despite constant loading shedding across the country. Hence, some people may not see the benefits of energy saving except electricity users who have seen a reduction in the utility bills.

2.5 CONCLUSION

In summary, this chapter provided the philosophical and conceptualization of disaster and development underpinned on analysing their nexus. The

discussion revealed that the term *disaster* should be viewed as encompassing to include aspects of hazards, vulnerability, risk and capacity. Failure to do so results in increased progression of vulnerability that exposes society to disasters, particularly if their poverty levels are high like in Zimbabwe where poverty level are as high as 70% according to ZIMSTAT (2013). Furthermore, in conceptualizing disaster, a number of scholars and practitioners concur that the definition cannot be divorced from its crucial elements (hazards, vulnerability, capacity/capability, resilience and risk). Most importantly, these elements enhance one's microcosm view of disaster. For instance, the term 'hazard', has been often confused with 'disaster' and at times used synonymously. Arguably, hazard and disaster 'are not the same and should not be used synonymously or interchangeably Twigg (2004 ISDR (2009:17) harmonized disaster definition by postulating that it is: "A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage". Further, ISDR (2009:17) suggest that the key words that differentiate a hazard from a disaster are: 'potential' and 'may' which brings in the aspect of probability if combined with other aspects like vulnerability, exposure, risk and weak capabilities or weak resilience which then can result into a disaster. In this view, adopting and implementing

holistic disaster risk reduction strategies mitigates against the rapid progression of vulnerability and hazards into disasters, as well as protect development gains from being eroded.

In the same vein, development was conceptualized guided by modernization, capabilities and sustainable theoretical frameworks. Development conceptualization also revealed that it is an encompassing term that is not just economic or points to growth, hence a totality view to development is required. Sumner and Tribe (2008:11) suggest that "... 'Development' encompasses continuous 'change' in a variety of aspects of human society. The dimensions of development are extremely diverse, including economic, social, political, legal and institutional structures, technology in various forms ... the environment, religion, the arts and culture". For these reasons, development cannot be divorced from disasters, risks, vulnerability and hazards which are part of society. Because, human beings interact with the environment. Likewise, the scholarship of Goulet (1971 cited in Todaro and Smith 2006:21) supports the goal-oriented aspect by postulating that; "Development is legitimized as a goal because it is an important, perhaps even indispensable, the way of gaining esteem". Hence, development should be visionary viewed in totality

and from a sustainable perspective as put forward in the MDG (2000) and SDG (2015).

Pointedly, both disaster and development can be scholarly viewed as legions as they take a multidimensional approach in their definitional debate. In mitigating the progression of vulnerability, reducing the accelerated incubation of hazards into disasters and promoting sustainable development, one needs to understand that disasters and development are correlated as alluded by Stephenson (1994), Collins (2009), UNDP and OCHA (2012), DuFrane (2002 and 2005). This justifies this study so that their correlations are unpacked. The next chapter focuses on discussing an alternative theory for disaster and development nexus management.

CHAPTER 3: TOWARDS A THEORY OF DISASTERS AND DEVELOPMENT NEXUS MANAGEMENT

3.1 INTRODUCTION

The purpose of this chapter is to discuss the disasters and development synergies by proposing an alternative theoretical framework rooted in Disaster Risk Reduction (DRR) from a Neo-Stephenson's perspective. The Chapter begins by looking at the general overview to disaster risk reduction conceptual framework. This is followed by examining views on disaster and development as espoused by Stephenson's hypothesis of (1994) which underpins this discussions in this study. Suffice to say that discussions this chapter builds on initial theoretical views by Stephenson (1994) Stephenson and DuFrane (2002) whose scholarly views revealed that disasters and development are correlated and should not be viewed as diametric. Further, the discussion goes on to propose a conceptual framework that can be adopted to enhance disaster management and development linkages theoretically and pragmatically. Basically, disasters and development linkages require a conceptual framework that is anchored in holism. The chapter concludes by exploring some of the benefits of using disaster risk reduction in the development and disaster management terrains.

Disaster Risk Reduction (DRR) theoretical and practical use is supported by scholars such as Collins (2009) and Robledo et al. (2004) because the conceptual framework is a reservoir that is rich with multiple approaches that can be used to bridge the perceived divide between disaster and development. The DRR framework is succinctly expressed graphically in Figure 8: below:

Figure 8: Framework for Disaster Risk Reduction

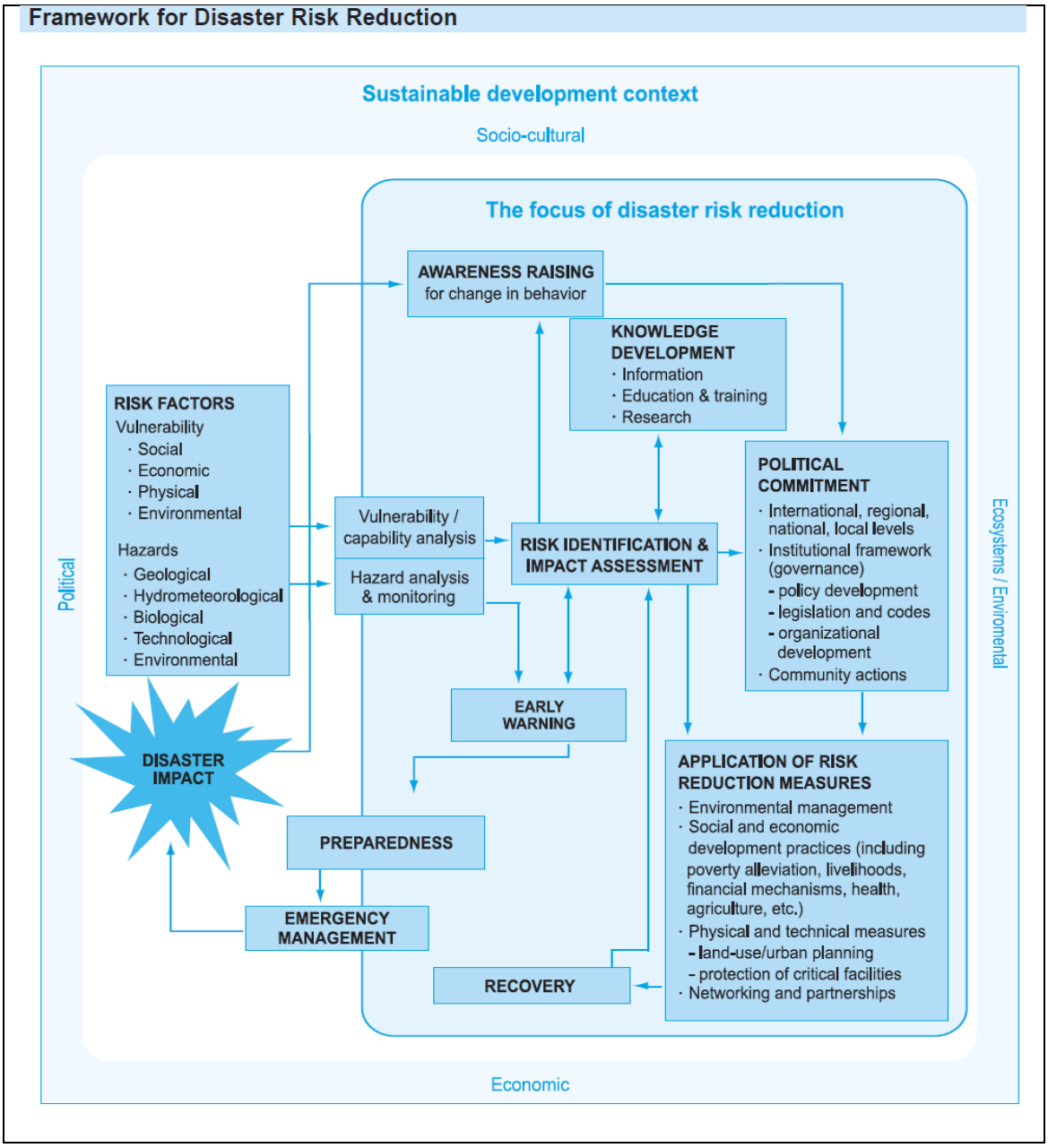


Figure 8: Disaster Risk Reduction Conceptual Framework – Adapted from Living with Risk (2004:15) International Strategy for Disaster Reduction (ISDR).

3.2 Disasters and Development Conceptual Framework: A Stephenson's Perspective

Precisely, Stephenson's hypothesis to disaster and development nexus embraces both development and disaster management aspects, therefore reinforcing on the earlier conceptual discussions in chapter two of this study. Contextually, the views expressed by Stephenson challenges disaster management and development practitioners, as well as policy makers and implementers to rethink how to approach disaster and development by exploring the synergies. In summary, Stephenson (1994:7) puts forward the disaster and development conceptual nexus by hypothesizing that; "disasters and development are closely linked in that disasters can both destroy development initiatives and create development opportunities and that development schemes can both increase or decrease vulnerability". However, disasters are normally perceived as destructive to economic gains in areas in with few alternatives for assets or in areas in where resources are already at critical levels. Affirmatively and negatively, development processes can both increase and/or decrease the vulnerability of a society to hazards. There are dearly established linkages between poverty, marginalization, over-population, and vulnerability. To a large extent, vulnerability derives from poverty (Stephenson and DuFrane, 2002).

It is the poverty receipt that accelerates progression of vulnerability leading to disasters.

Stephenson and DuFrane (2002) further postulate that the poor are more likely to live in vulnerable areas (slopes prone to landslides, flood plains, marginal agricultural land), have difficulty accessing education and information on risk or early warning, have fewer assets to invest in resources to reduce vulnerability. In addition to the above, the poor and poverty stricken people are more prone to become malnourished and have chronic illnesses that predispose them to high morbidity and mortality rates. Furthermore, Stephenson (1994) suggests that development, on the other hand, may be associated with the incubation of new hazards accepted by a society because the perceived benefits of the development project far exceed the relative risk associated with the project. In summary, figure 9 below illustrates the disasters and development correlation as put forward by scholars like Stephenson (Stephenson, 1994).

Figure 9: The Disasters and Development Conceptual Nexus

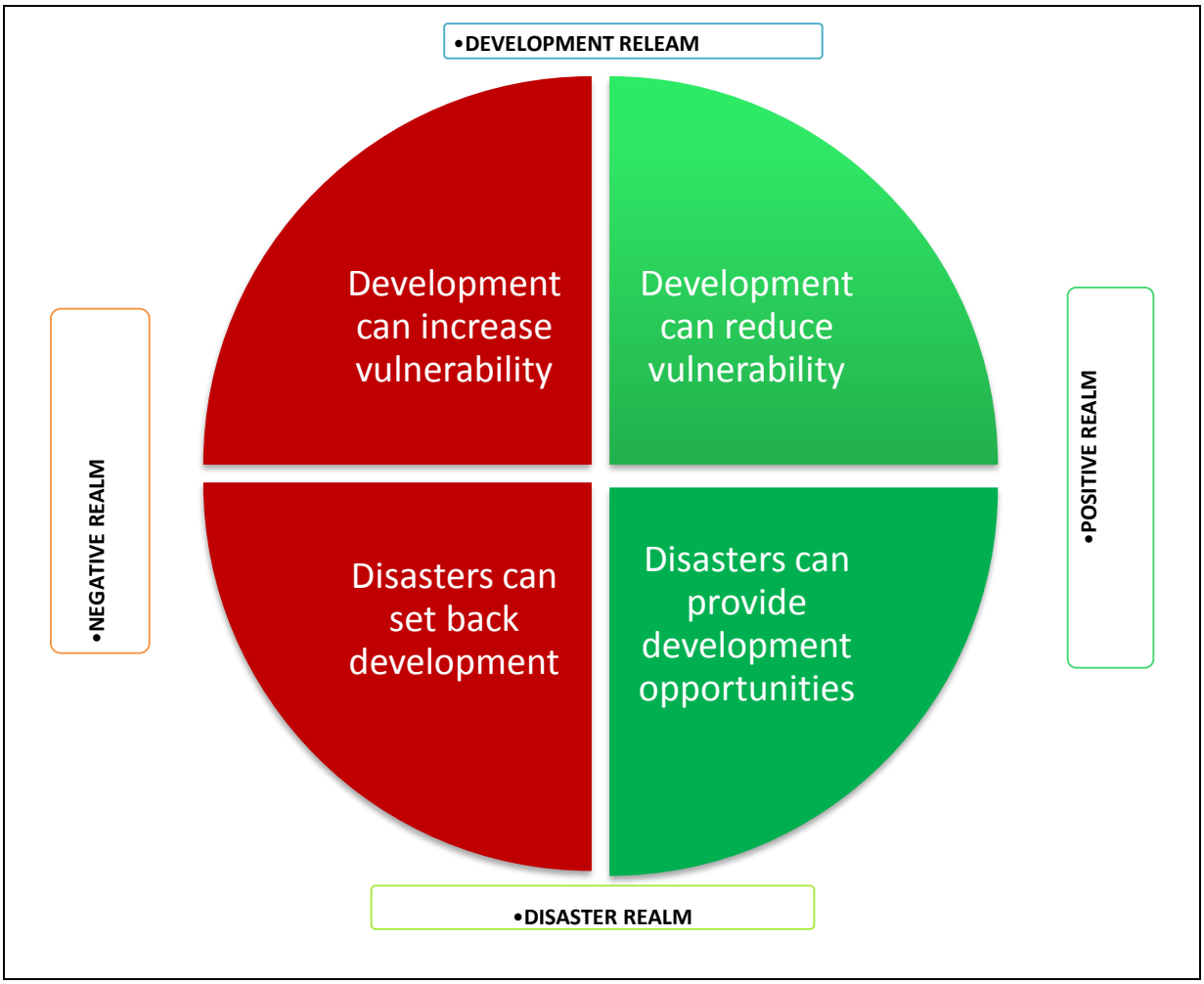


Figure 9: Disasters and Development Conceptual Nexus - Adapted from (Stephenson 1994:10) in Disasters and Development 2nd edition, New York, UNDP.

Illustratively, Stephenson's (1994; 2007) theorization on disasters and development correlation is summarized thematically in Figure 10: above. An analysis of Figure 10 above reveals that disasters and development are correlated and should not be tackled in unison. In particular, Stephenson's (1994:10) summarizes the disasters and development nexus by arguing that:

- Disasters set back development programmes destroying years of development initiatives;
- Rebuilding after a disaster provides significant opportunities to initiate development programmes;
- Development programmes can increase an area's susceptibility to disasters; and
- Development programmes can be designed to reduce susceptibility to disasters and their negative consequences.

Suffice to say that Stephenson (1994) clearly validates the disasters and development correlation. However, one is left wondering that if the two are correlated; which framework can ideally cement or bonds their marriage? Notably, such practical approaches lie in the disaster risk reduction (DRR) conceptual framework. This is the reason why this study revisited Stephenson's theoretical perspectives by proposing a Neo-Stephenson's alternative theoretical approach that includes disaster risk reduction (DRR)

as an operational framework. This agrees to the holistic, inter-sectoral or integrated or interdisciplinary or trans-disciplinary nature of disasters and development fields. Contextually, emerging economies like Zimbabwe require pragmatic approaches in dealing with disasters and development as a means to curtain poverty and mitigate vulnerability. Therefore, Stephenson's theoretical look on disasters and development falls short to adequately address vulnerability and mitigate erosion on development gains in post-colonial and emerging economies like Zimbabwe. In particular, Zimbabwe requires incremental and practical solutions to hazards that affect lives and livelihoods among rural, per-urban and urban populace.

3.3 NEO-STEPHENSON HOLISTIC DRR THEORETICAL PERSPECTIVE ON DISASTERS AND DEVELOPMENT NEXUS

The nested relationship between disasters and development gets reinforced with the use of multiple disaster risk reduction strategies to mitigate vulnerability because it will be rhetoric to say 'a disaster-free-world' can be achieved due to the changing nature of hazards. Furthermore, UNDP (2004:25) suggest that: "Hazards are being reshaped and new hazards introduced by contemporary development trend". Suffice to say that DFID (2004:12) acknowledges that; "Disaster risk reduction seeks to pre-empt a disaster..." hence the need to blend Stephenson's (1994)

hypothetical postulations with DRR conceptual framework to achieve a scholarly rich cocktail put forward as the Neo-Stephenson's theoretical framework.

In other words, Disaster Risk Reduction's (DRR) holistic nature and multitudinous strategies embrace developmental and disaster management methods. Hence, their nexus in Zimbabwe should be capitalized in building resilient communities particularly in rural areas through community-based disaster risk reduction projects and promote sustainable development enshrined in Sustainable Development Goals (SDG) and further customized to local development policies like Zim Asset. In the same vain, development programmes should be inclusive, participatory and take into account the nexus that exist between disaster and development. Likewise, public health specialists, environmentalists, researchers and policy makers drawn from grassroots level to international levels are key stakeholders in DRR (ISDR, 2009). Through disaster risk reduction 'at risk' communities and development organisations are expected to own the process. Therefore, by linking disasters and development through DRR, communities in areas prone to hazards are capacitated and empowered to make informed decisions (IFRC, 2012). The body of knowledge shows that tackling disasters and development nexus from a DRR perspective (Collins,

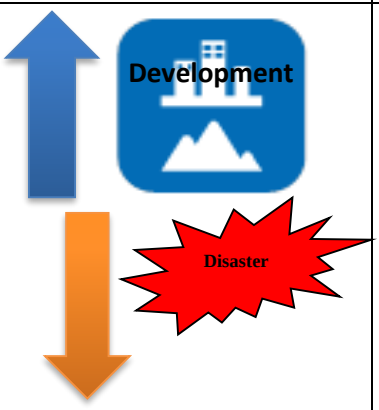
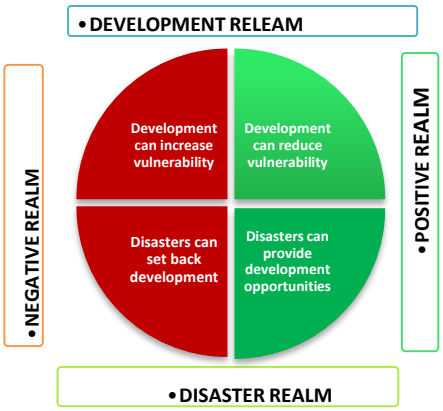
2009) one is challenged to rethink through a paradigm shift from a traditional view to a more progressive vision of disasters and development correlation.

Notably, the proposed alternative Neo-Stephenson theoretical framework goes beyond establishing disasters and development linkages as postulated in the scholarship of Stephenson (Stephenson, 1994; 2002 and 2005). In other words, it argues that DRR framework enhances the synergies both theoretically and practically as illustrated in Figure 11 below. However, it is premised on the four realms (positive, negative, disaster and development) as postulated by Stephenson (1994). The alternative DRR theoretical framework is rooted in holism. It fosters sustainable development a reversal of vulnerability towards resilience/capabilities building, at the same time contributing to poverty reduction. Analogously, the correlation of disasters, development and poverty alleviation have been confirmed through the scholarship of (DFID, 2004). Likewise, Environmental Resources Management (2005) reiterates the short and long term benefits of DRR. Figure 10: below illustrates the Alternative theoretical framework from a disaster risk reduction perspective.

The illustration in Figure 10 summarizes the views in which people perceive and conceptualize disasters and development. First is the antagonistic view

which suggests that development and disasters are not related, followed by other views. Hence, their diametrical views cannot be reconciled. The second notion is the one put forward by Stephenson (1994) that hypothesised that disasters and development are correlated and swim in the positive and negative realms. The third and progressive view illustrated in Figure 10 is the proposed alternative Neo-Stephenson theorization that suggests that DRR can cement the Disasters and Development through is grounded framework. In other words, the third theoretical view suggests that disasters and development are not just related but through the use of DRR their relationships result in increased resilience and promotion of sustainable development. Hence, looking at development and disasters through a DRR lenses mitigates disasters and vulnerability among all levels of society. Likewise, development programmes that are normally eroded by disasters will continue with minimal disruptions. In summary, the Alternative DRR conceptualization draws its strengths from the “Release Model” proposed by (Wisner et al., 2004).

Figure 10: The Alternative Disasters and Development Theoretical Framework

The Traditional **"Antagonistic"** view	**Stephenson's** Disaster & Development Nexus view	The Progressive **"holistic"** view
 The Myopic Traditional 'Antagonistic' view of Disasters and Development	 Disasters and Development Nexus (Stephenson 1994:10)	 The Progressive Alternative Conceptual Theoretical View of Disasters and Development Nexus from a Disaster Risk Reduction Perspective

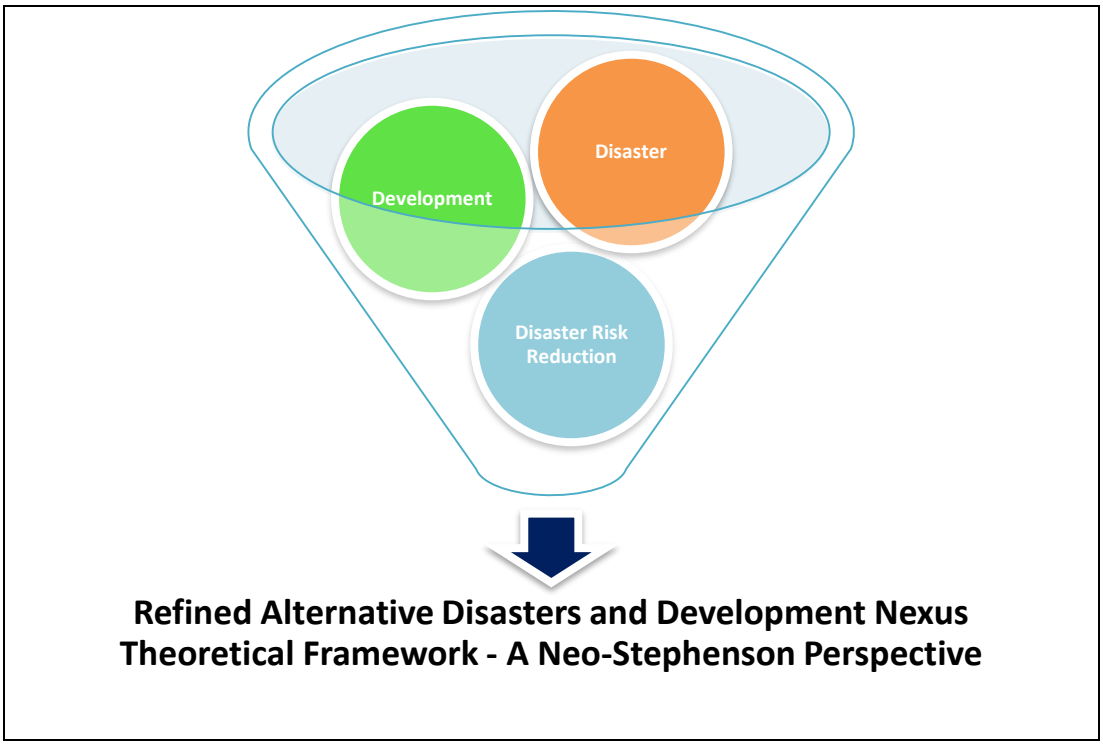
The Neo-Stephenson's Alternative Conceptual Theoretical View of Disasters/Development Nexus from a Disaster Risk Reduction Perspective – (Researcher's initiative, 2015)

The proposed alternative theoretical framework triggers a challenging scholarly debate given the dominant traditional myopic and antagonistic views on disasters and development. It builds on Stephenson's initial hypothetical views by proposing progressive alternative disasters and

development terrain that is more pragmatic and applicable in developing countries like Zimbabwe. Therefore, it capitalizes on the strengths of the DRR multiple strategies. Notably, DRR is rooted in internationally agreed protocols like Hyogo Framework Approach (HFA) 2005 – 2015, the Sendai (2015-2030) for Disaster Risk Reduction Framework. Likewise, the Millennium Development Goals (MDGs) and the Rio + 20 (2012) that are entrenched in sustainable development. These international protocols are supported by continental (African Union) and regional (SADC in the case of Zimbabwe) agreements with domestic polices and laws being expected to galvanize the pragmatic application in an effort to strengthen the disaster mitigation and development linkages.

Graphically, the alternative Disasters and Development nexus theoretical framework can be further illustrated through by blending disaster, development and DRR to come up with an alternative conceptual framework that bridges the disaster and development divide.

Figure 11: Alternative Disasters and Development Theoretical Framework



Source: A Neo-Stephenson perspective – (Researcher's initiative, 2015: add the page number)

In summary, the proposed alternative Neo-Stephenson Disasters and Development acknowledges and proposes that:

- Stephenson's (1994) disasters and development hypothetical correlation sets the foundation on the disasters and development nexus scholarship. Hence, this study is influenced by Stephenson's scholarship and other scholars who have strongly advocated for the linkages of these two variables as the all have a stake in increasing or decreasing vulnerability. Similarly, acknowledging that disasters

can both set back development initiatives and can provide development opportunities suggests Stephenson and Collins (Stephenson, 1994; Collins, 2009). Hence, disasters and development exist in the milieu of four realms namely: development, positive, disaster and negative realms;

- Notwithstanding the above, the Neo-Stephenson Alternative "holistic" disasters and development theoretical framework goes further to add Disaster Risk Reduction conceptual framework as a bridging framework for these intricately inter-woven inter-sectoral, multi-disciplinary and trans-disciplinary fields, thereby illustrating a more progressive view to the disasters and development nexus. In particular, it provides scholars, policy makers, the academia, disasters and development practitioners with a sound and well researched framework that has a sustainable development focus that promotes a robust ecology; and
- Blending disasters and developments with DRR provides for the use of eclectic strategies in carrying out hazard assessment, vulnerability and risk analysis, mitigating disaster risk. Furthermore, DRR enhances community resilience, capabilities and poverty reduction. Hence, vulnerable people or those at risk can withstand disaster shocks while at the same time ensuring sustained development in

developing countries like Zimbabwe. To be precise, the Neo-Stephenson alternative conceptual framework borrows heavily from the “Release-Model” Winser et al. (2004) whose thrust is on reduction of vulnerability, improving incomes/assets and governance, at the same time focusing on mitigating hazards and promotion of resilience.

In light of the above, the alternative Neo-Stephenson theoretical framework triggers a paradigm transformation on how people view the disasters and development discourse. This theoretical genre progressively acknowledges and popularizes the disasters and development correlation. This is in addition to exploiting their areas of convergence.

3.4 A DRR CONCEPTUAL SPECTACLES VIEW ON DISASTERS AND DEVELOPMENT

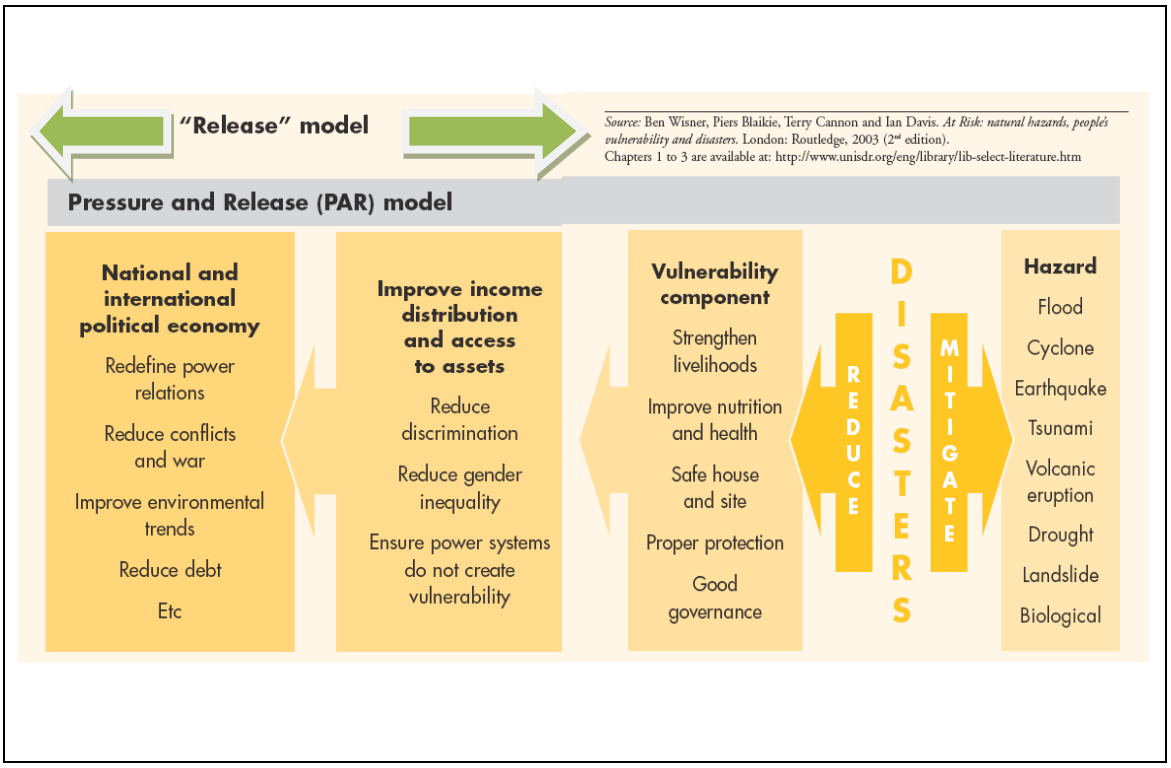
A neo-Stephenson’s perspective suggests that using DRR conceptual framework to bridge the disasters and development divide gives birth to new theoretical paradigm. In this sense, it is the long and complex nature of the chain of causality coupled with the root causes and the exposure to hazards that exposes people to vulnerability, argues (Twigg, 2004). For these reasons, one gets provoked to explore options to mitigate disasters and

promote sustainable development. Likewise, unplanned development can cause disasters, while well planned development can foster mitigation to disaster shocks as suggested by Twigg and Collins (Twigg, 2004; Collins, 2009). Moreover, the hazard intensity requires tracking to understand the progression of vulnerability so that risk mitigation measures are put in place. In such a case community resilience and capabilities are enhanced (Twigg, 2004).

In light of the above, the mitigation measures are aimed at practically cementing the disasters and development linkages from a forward-looking view as proposed in this study. In reducing the progression of vulnerability one aims to; address root causes, reduce dynamic pressures, achieve safe conditions, reduce disaster risk and reduce hazards (Wisner et al., 2004). In many ways, such progressive views by Wisner et al. (2004) are graphically illustrated in Figure 12: below in the “Pressure Release” Model. The model centres on reversing the progression of vulnerability. Summarizing each of the above reveals that the “Pressure Release” Model is the opposite of the “Pressure or Disaster Crunch Model” discussed earlier in the conceptualization of disasters and development in Chapter 2. Conceptually, the “Release Model” promotes reduction of vulnerability from multiple angles that includes: socio-political, economic, technological and

environmental factors. Suffice to say that conceiving DRR conceptually and applying it pragmatically cultivates a culture of hazard and vulnerability reduction. Stenchion (1997:43) reiterates the fact that “development and disaster management are both aimed at vulnerability reduction”. Aware of the changes taking places in the development and disasters fields, the scholarship of McEntire (2004) suggests that a number of scholars and practitioners examined the interaction of development, disasters and vulnerability. They concluded that a new strategy is required to address these issues concurrently and comprehensively. Therefore, the Neo-Stephenson alternative conceptualization through a DRR view is worth proposing and justifying its use both theoretically and practically.

Figure 12: The “Release Model” – A Disaster Risk Reduction Perspective



Source: Wisner, Blaikie, Cannon and Davis (2004), At Risk: Natural Hazards, People’s Vulnerability and Disasters, 2nd edition London, Routledge

Disaster Risk Reduction (DRR) is crucial in mitigating disasters and balancing the development scale as illustrated in Figure: 13 above. It can be argued that development in itself can increase the chances of a ‘risk society’ manifestation in the guise of development or modernization (Beck 1992; Wisner et al., 2004). Similarly, nations can applaud themselves in terms of scoring development gains yet the so-called ‘development’ may

lead to risks that can easily translate into disasters. For example, nuclear radiation effects felt post 2011 Japan Tsunami. The Fukushima Nuclear plant radiation effects besides being mitigated by scientist can been seen triggers for a 'risk society'. Wisner et al. (2004:17) suggested some risks that cannot be directly experienced through the sensory way such as; "... carcinogens in foodstuffs, toxicity from pesticides and risks associated with lifestyle ... incalculable horrors of unknown statistical probability, such as nuclear war..." Therefore, through community-based disaster risk reduction awareness can be raised on these silent risks that can be disastrous in nature while at the same time retarding development.

Twigg (2004) highlights that the process of risk analysis aimed at reduction measures facilitate the development of mitigation plans and help in making informed operational decisions. Ultimately, qualitative and quantitative analysis or a combination of both is employed in the risk analysis process. In particular, this can be exemplified by the mixed methodology adopted for this study. Moreover, qualitative descriptive scales are used to denote likelihood and magnitude of risks (Twigg, 2004). On the other hand, Twigg (2004) further asserts that quantitative approaches are engaged to produce tables that assign numerical values to the probability and frequency of risk as well as the exposure to the risk.

In spite of both the quantitative and qualitative benefits cited above, the risk analysis can have some limitations if vulnerability is not considered. More specifically, Twigg (2004:45) cautiously suggested that: "... risk analysis as often practiced is that it does not take a broad view of human vulnerabilities and capacities, tending instead to focus on more visible and quantifiable elements at risk such as buildings and physical or financial assets, and human lives". Risk analysis can be rescued by ensuring thorough hazard and vulnerability analysis. Likewise, methodological triangulation enriches the meticulous analysis that should result in disaster risk reduction/mitigation strategies that cut across development and disaster spheres at all levels.

Discussions engaged so far clearly reveal that disasters and development are linked, and DRR melds the two fields holistically. Disasters and development linkages within the context of disaster risk reduction are further illustrated in Figure13: below. Holloway (1998) asserts that disasters can be categorized according to their speed (slow/rapid onset) or causes, but development should be seen as an integral part of the disaster management continuum.

Figure13: Rapid onset Disaster Management Continuum

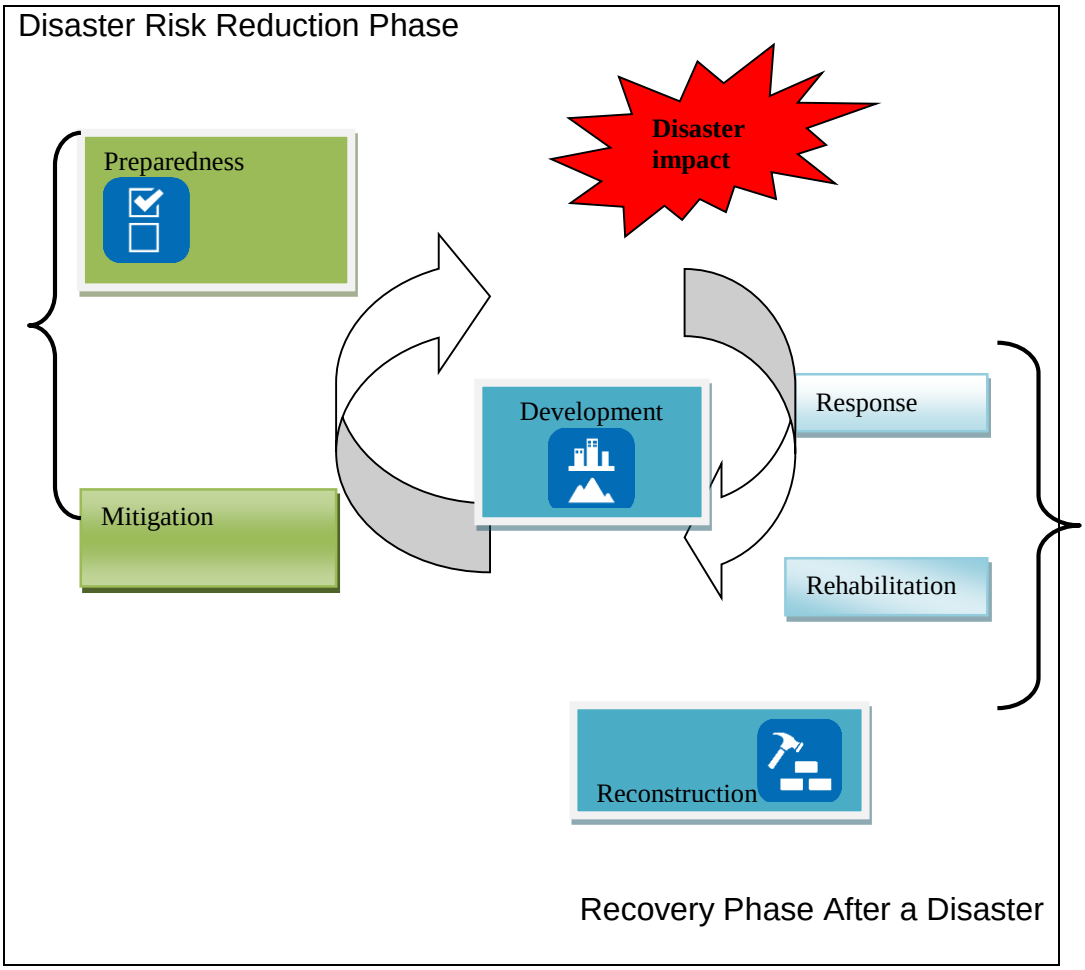


Figure 13: Rapid onset Disaster Management Continuum

Adapted from Holloway (1998) in the Green Paper on Disaster Management Accessed on 29 September 2013, URL: http://www.polity.org.za/polity/govdocs/green_papers/disaster/gpdm2-3.html

The board of knowledge postulated by Von Kotze and Holloway (1996) suggests the slow-on-set and rapid-on-set nature of the disaster continuum. Illustratively, Von Kotze and Holloway (1996) reveal the various phases that embrace disasters and development, consequently linking them with disaster risk reduction, a notion that supports a Neo-Stephenson alternative conceptual framework, as proposed in this discourse.

Figure 14: Slow onset Disaster Management Continuum

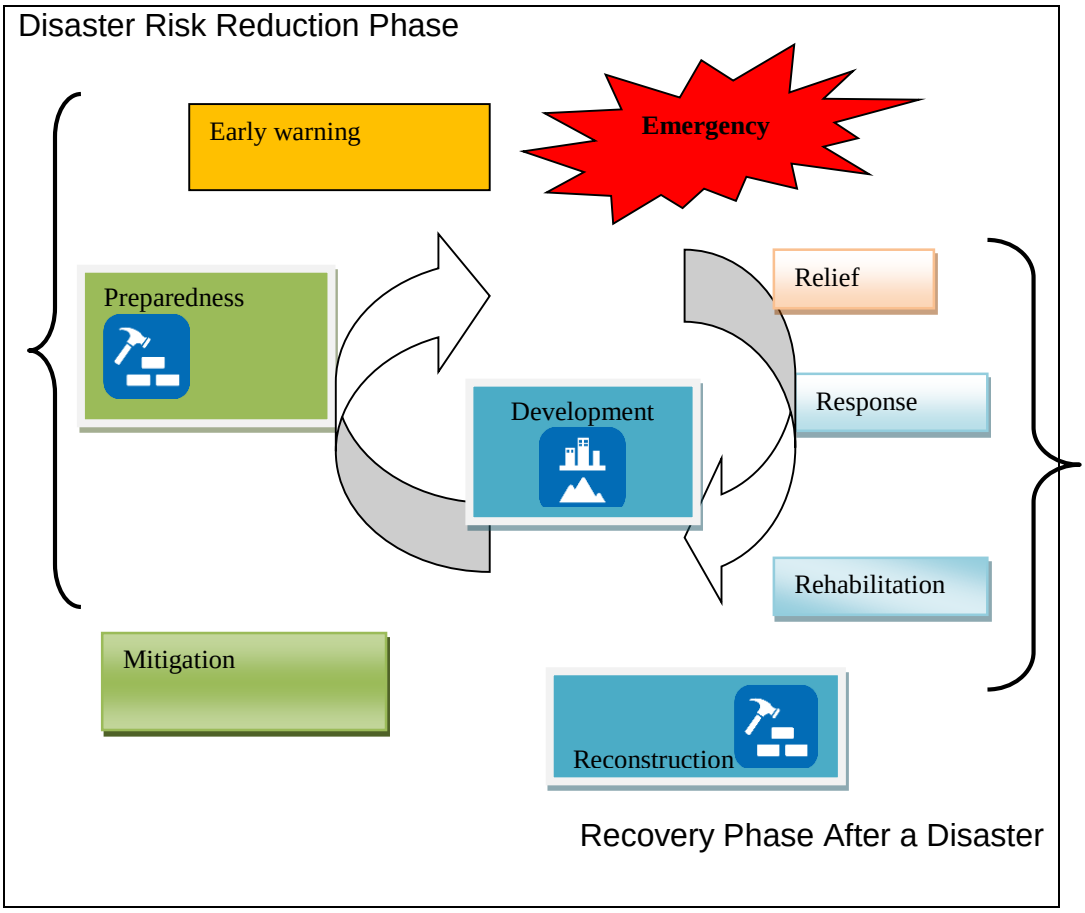


Figure 14: Slow onset Disaster Management Continuum

Adapted from Holloway (1998) in the Green Paper on Disaster Management Accessed on 29 September 2013, URL: http://www.polity.org.za/polity/govdocs/green_papers/disaster/gpdm2-3.html

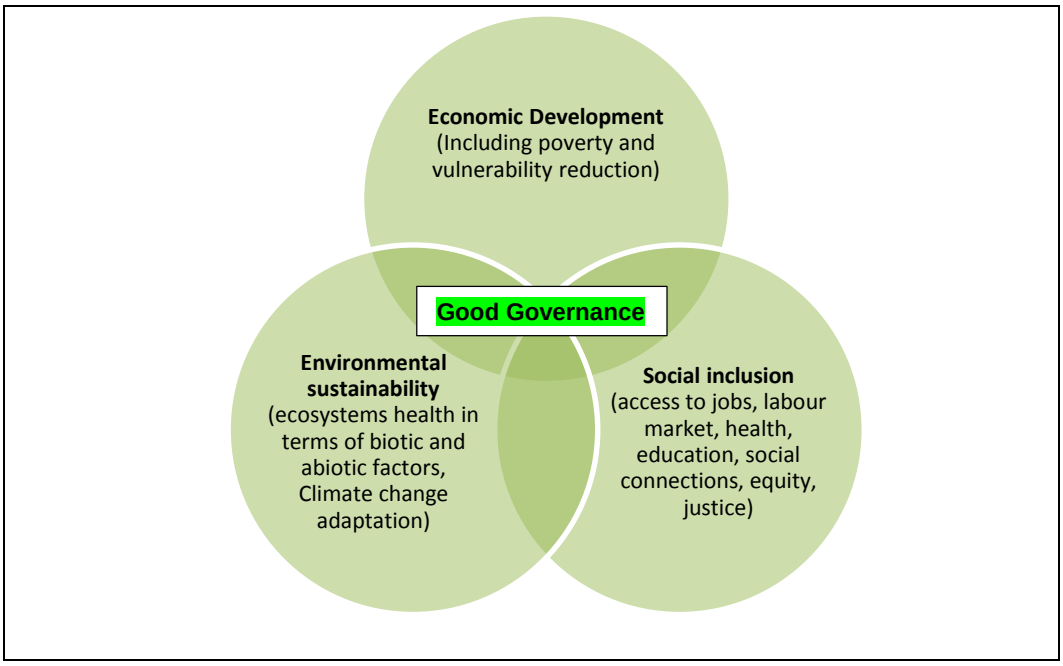
In addition, taxonomically, drought, floods, cyclones, typhoons, storm surge, epidemics and environmental degradation are some of the examples of slow onset hazardous events. Such events if not mitigated can progress to disaster scales thereby retarding development gains and eroding efforts put in place through risk reduction measures. Slow onset disasters provide a window of opportunity for preparedness and mitigation when the shocks or early warning signals get triggered. However, because of the myths suggested by Twigg (2004), people tend to ignore the early warning systems. More often, in practice the information is not analyzed to inform decisions at policy and operation levels. Hence, this repeatedly creates the 'caught unaware' syndrome. Interestingly, scholars such as Twigg (2004) have categorized floods, storm surges and wildfires within the rapid onset grouping. This notion can be challenged because there is an element of early warning that is provided before these hazards impact as disasters. For example, in the case of flooding the water levels rises. Similarly, the temperature readings and fire danger rating indices provide valuable early

warning information to inform preparedness and mitigation for wildfires. In practice before the fires affects a large area smoke clouds can be observed. In such cases, the fire can be mitigated before intensifying. Likewise, metrological forecast also provides early warning information and predictions and strengths of all hydro-metrological-climatic related hazards. This is in contrast to seismic hazards like earthquakes that can be rapid and unpredictable. A close analysis of early warning within the DRR ambit reveals that the early warning time might be limited in most hazards as compared to droughts that can be tracked from rainfall predictions, crops failures, production levels, migrations, prices of food, negative coping when households sell their assets, cost of labour and many others (Twigg, 2004; IFRC, 2012; Hubbard, 1995; Buchanan-Smith and Davies, 1995). In this case, therefore, DRR provides a window of opportunity for vulnerable communities to prepare for disasters and mitigate the impact on development gains.

More generally, Disaster Risk Reduction is both theoretically and pragmatically rooted within the sustainable development framework. For instance, DRR bridges the disasters and development divide, through environmental impact assessments and programmes aimed at reclaiming environmental degradation. Subsequently, this promotes ecological health

and balance of nature in a sustainable way. More specifically, the United Nations (2012) suggests that the sustainable development drives its strength from four interconnected factors of economic development (including ending extreme poverty/vulnerability), social inclusion, environmental sustainability and governance (including human security). Illustratively, Figure: 15 below summarizes the interconnected aspects the sustainable development which are important in disaster risk reduction.

Figure 15: Interconnected Aspects the Sustainable Development



Adapted from United Nations Sustainable Development Solutions Network 2012, Accessed on 29 September 2013, URL: http://unsdsn.org/

Notably, the sustainable development framework facilitates the incubation and strengthening of human capabilities through DRR's resilience building approach similar to Sen's (1999) Capabilities Approach. This can be exemplified through DRR is resilience building thrust that allows vulnerable communities to cope with disasters and in some cases live within acceptable levels of risk like Asia's earthquake prone zone of Hindu Kush mountain range (Hyogo Framework for Action 2005 – 2015; Sendai Framework for Disaster Risk Reduction 2015-2030). Further, the sustainable development frameworks environmental sustainability borrows strongly from ecological modernization whose focus is on reducing environmental problems and facilitate progression towards sustainability (York and Rosa, 2003)

3.5 CONCLUSION

Creditably, some empirical research studies by DFID (2004) have concluded that poverty alleviation, vulnerability reduction, development and disaster risk reduction (DRR) are highly correlated. Hence, tackling the disasters and development from Stephenson's hypothesis and blending it with DRR, justifies proposing a neo-Stephenson DRR conceptual frame for managing issues of disaster management and development holistically. To be more precise, the alternative Neo-Stephenson proposed model triggers

a paradigm transformation on how people view the disasters and development discourse. This conceptual genre progressively acknowledges and popularizes the disasters and development correlation. This is in addition to exploiting their areas of convergence.

The uncertainty of where and when disasters will strike and the extent of the damage on development gains ring in people's minds recurrently. However, what has been lacking especially in the case of Zimbabwe is taking pragmatic steps towards investing in disaster risk reduction so as to mitigate the impact of disasters and protect development gains. Venton, (2007:22) puts forward the argument that: "Evidence on costs and benefits of DRR consistently shows that investment brings greater benefits than cost, and therefore should be a priority for development planning". If research has proven that there are political, economic, social and technological (PEST) and environmental dividends that can be accrued from investing in disaster risk reduction, individuals and institutions should therefore get the zeal of moving forward the disaster risk reduction schema in Zimbabwe. More specifically, the proposed Neo-Stephenson model should inspire development and disaster management practitioners to work closely in unpacking the disaster and development nexus. In summary, by using a Neo-Stephenson model, disasters and development correlation

theoretical framework that is guided by a DRR approach one does not just scratch on the surface. In fact, one is bound to dig deeper in analysis and practical application in poverty and vulnerability reduction especially in disaster prone areas in Zimbabwe. This tallies well with mixed methodology research study designs that anchor this discourse. The next chapter focuses on the research plan and process for this study.

CHAPTER 4: METHODOLOGICAL CONSIDERATIONS

4.0 INTRODUCTION

The disasters and development nexus is inter-sectoral, multi-disciplinary and trans-disciplinary in nature cutting across many fields within the social sciences terrain. Therefore, to unpack the theoretical and pragmatic issues associated with the synergies of these two fields required employing multifaceted research methodology approaches in data collection, data coding and analysis. Hence, this study opted for the mixed methods approach from conceptualization throughout the research process so as to capitalize on the strengths entrenched in both qualitative and quantitative approaches. Drawing on a mixed methodology approach this study has approached the variables from multiple dimensions since disasters and development are intertwined. This is despite the myth that views development and disasters as diametrically divorced.

The theoretical views on disasters are conceptual legion in nature centring on hazards, vulnerability, risks, capacity, capabilities, resilience and erosion of development gains. Nevertheless, development, on the other hand, is viewed as the end product of the intricate interaction between various

physical, technological, economic, social, cultural and political institutional factors (Singh, 1999). In particular, development concept is multi-dimensional in nature, representing an intersection of social, structural and institutional innovation. Notably, in this study, disasters and development affect both rural and urban areas, their lives, livelihoods and their environment. Undoubtedly, the use of mixed methods in this study is justified because of their superior and scholarly rich strengths that include complementarities of approaches, the dialectical position and pragmatism. Similar views on dialectical position and pragmatism are share by scholars like Tashakkori and Teddlie, Johnson and Onwuegbozie (Tashakkori and Teddlie 2003b; Johnson and Onwuegbozie 2004). Furthermore, a number of scholars are of the view that mixed methodology has brought in a methodological paradigm shift (Tashakkori and Teddlie 2003b; Johnson and Onwuegbozie 2004; Irwin 2006; Mason 2006 and Greene 2008). These comparative advantages in mixed methods can be used to bridge disasters and development divide through disaster risk reduction theoretical framework in both rural and urban areas in Zimbabwe. Notwithstanding the above, creativity can be limited if the research is inclined to a single paradigm. Hence, the comparative advantage of using mixed methods.

This chapter discusses research methodology focusing on: significance of research methodology, research design, unity of analysis, population and sampling, data collection instruments, validity and reliability, stages of data collection, data analysis and concludes by looking at study geography and its demography. The chapter concludes by looking at the geographic and demographic profile analysis of study areas and the respondents. In sum, this chapter is the scholarly map (Hofstee, 2006) that comprehensively guides readers towards the body chapters of this case study on disasters and development using theory and practice in Zimbabwe. The study hypothesis suggests that: disasters and development are correlated, as disasters can both destroy development initiatives and create development opportunities, and that development schemes can both increase or decrease vulnerability. This notion is strongly supported by literature survey and grounded scholarship from Stephenson, Stephenson and DuFrane, DFID, UNDP, Fordham and Collins (Stephenson, 1994; 2002; 2005 and 2007; Stephenson and DuFrane, 2002 and 2005; DFID, 2004; UNDP, 2004; Fordham, 2007; Collins, 2009). This study further argues that development gains and opportunities are congealed within disasters instead of viewing disasters negatively. Additionally, the study qualitatively rooted deeper into the theoretical and practical gaps for disasters and development nexus in Zimbabwe. However, factors that hinder progressive linkages of these two

variables were identified and analyzed, while at the same time, benefits derived from Disaster Risk Reduction (DRR) as the bridging conceptual theory were explored underpinned on an alternative Neo-Stephenson theoretical framework.

4.1 SIGNIFICANCE OF RESEARCH METHODOLOGY

Philosophically, research methodological “paradigm wars” can be traced back to the 1970s and 80s (Reichhardt and Rallis, 1994). This is at a time when the positivist paradigm of quantitative research came under attack from social scientists when they proposed constructivism (Reichhardt and Rallis, 1994). Despite these philosophical contestation scholars agree that research provides an opportunity to tackle and understand the problems in the world. For instance, disasters and development issues in Zimbabwe that affect people it terms of vulnerability, resilience and institutional innovation. Hence, research tigers the mind to dig deeper in order to obtain knowledge that informs action in addressing the world problems. More specifically, research examines a new interest or a phenomenon affecting people or the society in general (Kumar, 2005:84). Accordingly, research takes a systematic approach underpinned on a qualitative or quantitative or mixed methods research design. In general, quantitative or positivist approach to research has its thrust on answering questions about relationships among

variables (Leedy and Ormrod, 2005). Likewise, Laws, Harper and Marcus (2003:28) postulated that “A quantitative approach asks how many people share a particular characteristic, or hold a particular view”. Consequently, quantitative research approach is anchored on the issues of objective truth that can be quantified to some extent. Further, quantitative research manifests itself mainly through three typological designs namely; experiments, quasi-experiments and correlational surveys (Punch, 1998). In addition, Leedy and Ormrod (2005) assert that observation (quantifiable) studies and development designs also form part of the major classifications of the positivist methodological philosophy.

In sharp contrast, qualitative research tends to answer the questions about the complex nature of phenomena (Leedy and Ormrod, 2005). In this sense, qualitative approach takes the social constructionist or people-centred approach. The scholarship of Laws, Harper and Marcus (2003) suggests that a qualitative research approach focuses at what people think and feel, and why. For these reasons, it is human-centred and digs deeper to understand the phenomena in society. Qualitative research goes further than just being people-centred. Thus, it is rooted in diversity which relatively gives it a scholarly, philosophical and methodological niche (Punch, 1998). In particular, qualitative research therefore is not a single entity, but rather

an umbrella term that encompasses enormous variety (Punch, 1998:139). The major taxonomical groupings assorted with qualitative research are; case studies, ethnography, phenomenological studies, content analysis and grounded theory (Punch, 1998; Leedy and Ormrod, 2005; Laws, Harper and Marcus, 2003).

Nonetheless, this disasters and development nexus study in Zimbabwe examines both theoretical and practical issues. Thus, it examines both positivist and social constructionist perspectives. First, by understanding the development and disasters correlations and secondly by unpacking people's perceptions on what people think, feel and the 'why' issues on the linkages of the two variables. Hence, this justifies the adoption of mixed methodology research paradigm in this study. This represents a pragmatic shift from being nested in research design 'paradigm wars' that narrowly look at research as qualitative or quantitative. Indisputably, research methodological designs borrow from each other. Thus, it for these reasons that this research opted not to be aligned to a single methodological design by structuring the study on mixed methodology. Mixed methodology, therefore allows combining multiple approaches (both qualitative and quantitative) to embrace strengths enshrined in each methodological and philosophical view.

The trajectory of mixed methods reveals that they were popularized by the scholarship of Creswell (2003) and Tashakorri and Teddlie (2003b). Similarly, Johnson and Onwuegbuzie (2004) and Irwin (2006) assert to the views for a paradigm shift to mixed methods. Further, Mason (2006) and Creswell and Plano Clark (2007 and 2010) highlight the methodological strengths of using multiple approaches in research. The scholarship of mixed methodology cannot be complete without mentioning contemporary philosophical views on the added value of mixed methods as highlighted by Greene (2008), Harwell, (2011) and Creswell, (2013 and 2015). Etymologically, mixed methods have their pedigree in the scholarly work by Campbell and Fiske (1959) focusing on construct validity known as the Multitrait-Multimethod-Matrix (MTMM) that employed multiple methods. The history of mixed methods further shows that Sieber (1973) combined the use of surveys and interviews while the scholarship of Jick (1979) progressively looked at triangulation of qualitative and quantitative data. According to Creswell and Plano Clark (2007:14), the period 1985 to 1997 centred on paradigm debate on mixed methods that can be attributed to the scholarship of Rossman and Wilson (1985) and Bryman (1988). Similarly, Reichardt and Rallis (1994) and Greene and Caracelli (1997) reiterate methodological ‘paradigm war’ especially around the 1970s and 80s by

positivist and social scientists' constructivism paradigm. Therefore, mixed methodology design stands on a scholarly firm ground justifying its use in the disasters and development nexus discourse. Additionally, Creswell and Plano Clark (2007:5) postulated that mixed methods is "...a research design with philosophical assumptions as well as quantitative and qualitative methods". Hence, its comparative advantage in social science research. Nonetheless, the central or core premise of mixed methods design is its ability to harness the strengths of both qualitative and quantitative approaches thereby providing a better understanding of the research problems than either approach alone (Creswell and Plano Clark, 2007).

4.2 RESEARCH DESIGN

The term 'research design' is associated with a myriad of scholarly definitions with some confusing it with 'method' and in some cases the two are often used interchangeably, as Hofstee (2006:108) suggested. Arguably, Hofstee (2006) further posits that research design has two meanings that is; "the way you choose to design your study, meaning to say how you went about coming to a conclusion about your thesis, or the general techniques themselves, again for example, interviews, a case study, content analysis or an experiment, inter alia". Mouton (2001:55) is of the view that "A research design is a plan or blueprint of how you intend

conducting the research". Hence, this study focuses on a case study design that is drawn from three distinct areas of rural (Buhera), peri—urban (Centenary-Muzarabani), and urban area of Harare. This was aimed at analysing the disasters and development nexus theoretically and practically in the context of Zimbabwe as a developing nation. This was guided by the notion put forward by Stephenson that emphasize the capability of disasters as an variable that can erode development gains and at the same time create development opportunities, while on the other hand, development programmes can both increase or decrease vulnerability (Stephenson, 1994). Therefore, to unpack this hypothesis a case-study design supported by a mixed methodology triangulation approached guided achieving the intended results of this study from an in-depth perspective.

A case-study takes a step-by-step approach drawing from the focus group discussion, interviews, fieldwork and observations used in this study. A case-study designed was selected because of its strength that allows the use of multiple sources of evidence and techniques (Punch, 1998; Leedy and Ormrod, 2005; Laws, Harper and Marcus, 2003). In particular, Yin (1994) is of the view that a critical case allows for testing theory or comparing theories or ideas as evidenced in this study. In summary, after identifying the problem that disasters and development was not fully

researched in Zimbabwe particularly on their nexus. In enhancing the case study, the mixed methods were used as a paradigm shift from the traditional ontological and epistemological traditions. This allowed comparative analysis of critical cases (ideas, theories and ideas) drawn from Buhera, Centenary-Muzarabani and Harare. Similarly, trends and patterns were extrapolated, and disaster and development policy practice in Zimbabwe was evaluated. Therefore, allowing for building a strong platform for generalizing a case on disaster and development nexus in both theoretical and practical terms within the Zimbabwean context.

Traditionally, research has been viewed either as positivist (quantitative) or constructivist (qualitative). In practice, this notion gives a much narrower view to research and limits scholarly creativity. In the context of this study mixed methods was opted for, from conceptualization to conclusion. This is because of the strengths of mixed methods that include; pragmatism, participation of research subjects, digging deeper into the problem under study, complementarities, dialectical position and methodical triangulation (Tashakkori and Teddlie, 2003; Mason, 2006). In particular, in this study, such strengths were capitalized by using in-depth interviews, FGDs, document review, observation and field visits in all the three study areas (Buhera, Harare and Centenary-Muzarabani), while questionnaires were

used in Harare and Buhera on participants that could not be reached through qualitative tools. In particular, the use of multiple data collection tools enhanced triangulation from both a qualitative and quantitative perspectives. Therefore, enhancing validity and reliability for this study. Notably, disasters and development are two variables that require multiple approaches if their nexus is to be understood theoretically and practically, thus making this study to uniquely contribute to ground breaking scholarly debate in the field of development studies.

Philosophically, mixed methodology emerged as a third methodological movement complementing existing traditions of positivist paradigm of quantitative and constructivist qualitative research (Tashakkori and Teddlie, 2003; Teddlie and Tashakkori 2009). Similar views are also shared by scholars like Hall (Hall 2012) who support mixed methodology as a third emerging paradigm in the area of research designs that is entrenched in both positivist (quantitative) and constructivist (qualitative) paradigms.

In the same vein, Leedy and Ormrod (2005) postulated that qualitative (constructivist) research paradigm focuses on phenomena that occur in natural settings that is in the ‘real world’, just like this study on disasters and development. Additionally, qualitative research involves studying those

phenomena in all their complexity by considering multiple dimensions and layers in their multifaceted way. This actually, tallied well with the collecting and analysis data in this study as both disaster and development are encompassing and conceptualized from multiple angles. Salkind (2009:209) simplifies qualitative research as a non-experimental research that "...is social or behavioural science research that explores the process that underlie human behaviour using such exploratory techniques as interviews, surveys, case studies, and other relatively personal techniques". Hence, the use of non-probability purposive sampling in this study.

Salkind (2009) further suggested that qualitative research methodologies also involve statistical analysis over and above the textual analysis. Therefore, this justifies the statistically analysis in the body chapters (findings) of this case study on disasters and development. Punch (1998) puts forward the argument that qualitative methods are complex, changing and entail the use of multiple methodologies and research practices. Hence, their richness in diversity which were exploited through mixed methodology approach. The scholarship of Punch (1998:139) further suggest that; "qualitative research therefore is not a single entity, but an umbrella term which encompasses enormous variety". The variety and diversity in qualitative research allows for worthwhile scholarly rich contributions.

Justifiably, qualitative research methodology as used in this study, "... aims at discovering the underlying motives and desires, using in-depth interviews for the purpose" (Limat, 2015). To sum up the merits of qualitative research, Markland (2013) postulated that qualitative research usually adopts an inductive approach which is idiographic in nature by focusing on individuality and uniqueness to dig deeper into the phenomenon (Bangor University, 2015). Therefore, data collected qualitatively was directed towards individuals in society in Zimbabwe that are affected by disasters and development policies and practices through an increase or reduction in vulnerability based on resilience levels. This further validates the use of qualitative research techniques dominantly in this study as part of mixed methods. Additionally, disasters and development involves individuals in society, their social infrastructure and institutions that relate with them politically, socially, economically, technologically and environmentally including the ecosystems.

The mixed methods approach also embraces quantitative research approaches. Hence, this justifies their use in this study. Harwell (2011:149) postulated that "quantitative research methods attempt to maximize objectivity, replicability (reliability), and generalization of findings, and are typically interested in prediction". Therefore, one of their added advantages

in this study is that they ensured capturing of hazard trends, their seasonality and perceived severity. Quantitative research approaches, broadly cuddle the assumptions and methods of natural sciences (Markland, 2013). It generally adopts a deductive reasoning approach which quantifies the variables by examining relationships mathematically (using statistics). This requires moving from theory to data in a nomothetic way argues (Markland, 2013). Additionally, in this case study quantitative approaches were employed in establishing disaster and development relationships, confirming Stephenson's disasters and development conceptualization which was also qualitatively supported by document analysis and data collected from the field, a key niche of mixed methodology. Furthermore, quantitative approaches were used in data entry process, mathematical calculations (without engaging into rigours statistics). Further, examples include; calculations on severity scoring of risks based on likelihood and impact, as well as questions that sought to examine disasters and development correlation based on interviews, focus group discussions and questionnaires. Similarly, questionnaires were administered in Buhera and Harare on a selected number of respondents that could not be reached through interviews and focus-group discussions (FGDs) due to busy schedules to participate in interviews or FGDs. The data collection instruments had similar questions which made data

capturing and analysis easy, though questionnaires did not have much on the probing side compared to interviews and FGDs. The complementarities in the data collection instruments and the use of both qualitative and qualitative approaches clearly demonstrate why mixed methods were selected and guided the research process in this study.

4.3. UNIT OF ANALYSIS

Mouton (2001:51) posits that ‘the unit of analysis refers to the “what” of the study: what ‘object’, ‘phenomenon’, ‘entity’, ‘process’ or ‘event’...” The unit of analysis is the major entity analyzed in the study. For instance, any of the following could be a unit of analysis in a study: individuals, groups, artefacts (books, photos, newspapers), geographical units (towns, census tract, state), and social interactions (dyadic relations, divorce, arrests) posits Trochim (2006 cited in SocialResearchMethods.net, 2015). Babbie (2003) amplifies the conceptualization of unit of analysis by suggesting that it “...is the major entity that is being analyzed in a study. It is the 'what' or 'who' that is being studied. In social science research, typical units of analysis include individuals (most common), groups, social organizations and social artefacts”. Suffice to say, the ‘what and who’ or unit of analysis in this study is the nation state (Zimbabwe), three geographical units namely Buhera, Harare and Centenary-Muzarabani, communities, individuals and

institutions involved in disasters and development. Hence, an analysis of these units in this thesis provide summary descriptions, trends, patterns, similarities, differences on theoretical and practical issues related to disasters and development in Zimbabwe. Further, recommendations are tallied against each unit of analysis. This study was carried out in Zimbabwe but its findings may apply in any developing nation in Africa, Asia, Middle East, South America, and Caribbean, the Pacific Islands or any part of the globe. Therefore, three specific areas divided into rural (Buhera), peri-urban (Centenary-Muzarabani) and Urban (Harare) formed the core part of this disasters and development nexus discourse based on a synthesis of theory and practice in Zimbabwe. Thus, issues of hazards, vulnerability, risk, capabilities, resilience and development cut across all levels of society from individuals, community, area, district, province and nation-state. Hence, it justifies the deliberate selection of multiple layers or stratums of units of analysis in this disasters and development nexus scholarly study based research population and sample.

4.4 POPULATION AND SAMPLING

Laws, Harper and Marcus (2003:457) conceptualize research target population as the "...the complete set of units about which generalizations are to be made". Similarly, Crowl (1996) concurs that a study population

refers to the whole group of people to whom study findings are generalized, including persons who did not participate directly in the research. In the same vein, Punch (1998:105) asserts that population is “the total target group who would, in the ideal world, be the subject of the research, and about whom one is trying to say something”. Laws, Harper and Marcus (2003) further amplify that in research population refers to the whole group being studied, where a sample is usually drawn. Therefore, in research one cannot divorce sampling and population because there is always a sample-to-population inference in generalizing the findings (Punch, 1998). Precisely, sample refers to a selection of units that are chosen to represent the target population (Laws, Harper and Marcus, 2003). A literature survey on sampling reveals that it is the process that involves selecting a part of the whole population for participation in a study (Blanche, Durrheim and Painter, 2006). Hence, the sampling process involves key decisions on which people (subjects or interviews or participants or respondents), settings or locations, events, behaviours, and/or social processes to observe (Blanche, Durrheim and Painter, 2006). Punch (1998:105) weighs in by suggesting that sample is “the actual group who are included in the study, and from whom the data are collected”.

Additionally, Leedy and Ormrod (2005) reiterate that a sample is used to learn more about the larger population. Hence, this study population includes 227,445 people drawn from 32 wards in Buhera, 112,092 people from Centenary-Muzarabani and 1,645,954 people drawn from Harare (ZIMSTAT, 2012). The above population is so huge to be covered even if one is using a mixed methodology approach, hence a purposive stratified sampling was employed in this study. Consequently, a sample drawn from this population took part in the study. Miles and Huberman (1994:27) postulated that one “cannot study everyone everywhere doing everything”. For these reason, the study sample was clustered around community members (36.1%), community leadership (7%), civil society, public or local authorities and civil servants (26.6%), CBO or NGOs (18.4%) the academia (6.3%), policy makers (2.5%), development and disaster management practitioners (3.1%). This allowed key clusters or layers in community to have their views represented in this disasters and development nexus study in Zimbabwe.

In light of the above, a deliberate non-probability purposive sampling approach was used. This basically refers to sampling that is targeted and linked directly to the study. Specifically, in a bid to mitigate bias the study used the combination or mixed purposeful sampling that involves multiple

techniques for triangulation purposes. According to Nastasi (2014:4), this type of sampling meets multiple interests and needs which is one of its advantages. In addition, this approach allows the researcher to combine two or more non-probability purposive strategies, which enhances representation and diversity within the target population. The combination or mixed purposeful sampling approach dove-tails with the mixed methods research design. In using a combination or mixed purposeful sampling approach the researcher capitalized on the strengths of each technique, thereby rescuing from the blander of relying solely on a single technique. The locations Buhera, Centenary-Muzarabani and Harare were selected through the maximum variation purposive technique because of their individual uniqueness of rural, peri-urban and urban setting respectively. Nastasi (2014) suggests that maximum variation allows capturing a wide range of variations of dimensions of interest, uncovering of central themes, core elements, while at the same time providing the opportunity to document unique and diverse variations. This was evident in this study where issues of toxic waste were high in Harare, while on the other hand, environmental degradation and hydro-meteorological hazards were issues of concern more in Buhera and Muzarabani, and limitedly in Harare. Epidemics were common in all the three locations. Palys (2008) also emphasized that the use of maximum variation has the added advantage of

searching for cases or individuals or communities who cover a broad spectrum of positions and perspectives in relation to the phenomenon one is studying. Such scholarly merits as suggested by Palys (2008) justifies why the researcher of this study selected this sampling technique to be among a hybrid of sampling approaches of the disasters and development nexus discourse.

In the same vein, the stratified purposeful sampling technique as part of the combination or mixed sampling approach to unpack the uniqueness in the sample size of 158 diverse individuals. More specifically, they were drawn from community members, community leaders, academia, policy makers, humanitarian, development and International organisations, public or local authorities and civil servants, and CBO and NGO workers. Hence, this provided a rare opportunity to capture rich and diverse heterogeneous views drawn from community members, community leadership, civil society, local authorities, civil servants, policy makers, the academia, development and disaster management practitioners. Scholars such as Nastasi (2014) postulated that stratified purposeful sampling has some similarities with the stratified random sampling. Particularly, it “focuses on characteristics of particular sub-groups of interest; facilitates comparisons”. Analogously, major variations on how people perceive disasters and development and

areas of common ground were captured through this technique. Valuable inputs also came from community members who suffered the consequences of disasters. There were areas of convergence in the trans-boundary nature of disasters and the correlations of the two variables. Further examples can be drawn from the factors that affect mitigation, and the need for pragmatic implementation of policies at all levels from a disaster risk reduction perspective that are anchored on a Neo-Stephenson conceptual theoretical framework.

During field work and through observations, the third sampling technique of opportunistic or emergent sampling proved to be valuable in the research process. For instance, such observations took place twice in Harare and Centenary-Muzarabi, and once in Buhera. Therefore, this enabled following new leads or probe discussion during interviews or FGDs based on observed development or hazards in the area of study. The examples of emergent issues included; forest burning, climatic conditions in Centenary-Muzarabani, water quality and toxic discharges in Harare. Likewise, climatic and environmental management issues were articulated by traditional leaders in Buhera, as well as testimonials on disaster effects, erosion of development gains across the three study locations.

In spite of using triangulation as a remedy in this study, one cannot rule out research bias that can happen at all stages including sampling. Laws, Harper and Marcus (2003) are of the view that bias in social sciences development studies research is inevitable. Factors that influence or contribute to bias were identified and mitigated. For instance, the research sample besides being purposive a stratified component was included to cater for gender dynamics, the excluded, reaching out to those in remote areas, accommodate various levels of literacy and involving a range of professional cohorts. Similarly, different age groups were involved in interviews, focus-group discussions and completion of questionnaires. The study avoided reaching out only to the main road/urban-based accessible respondents but opted for case studies in three distinct locations of rural, peri-urban and urban setting.

4.5. DATA COLLECTION INSTRUMENTS

In line with the mixed methods research design the study opted for the use of multiple data collection instruments that included: in-depth semi-structured interviews, focus group discussions (FGDs), observation, field visits, documents review and questionnaire. The use of multiple data collection instruments enhanced data triangulation and promoted capturing of the breadth and depth data on disasters and development issues in

Zimbabwe and how they are applied theoretically as well as practically. Laws, Harper and Marcus (2003) posits that the use of a variety of tools provide the best opportunity of achieving validity in a research. The use of qualitatively-biased data collection instruments like interviews/FGDs, observation, document reviews and field visits provokes the researcher's mind to be open, geared towards complexity and interaction with participants (Leedy and Ormrod, 2005), while quantitative data collection complements and triangulates the research inquiry on the linkages of disasters and development in Zimbabwe.

The design of the data collection instruments was based on authoritative and credible documentary sources as postulated by Stephenson (1994; 2002; 2005 and 2007), Stephenson and DuFrane (2002 and 2005), DFID (2004), UNDP (2004), Fordham (2007) Collins (2009), and other scholars on the conceptual synergies on disasters and development. Similarly, questions on disaster risk reduction and sustainable development were based on literature drawn from a wide-range of disaster, development and development studies scholars. Introspectively, the researcher of this study challenged self-biases in the process of conducting this research by using multiple data collection techniques in three different locations in Zimbabwe, in a bid to enhance triangulation. In summary, the data in this study reflects

the practical and policy realities on disasters and development in terms of theory and practice in Zimbabwe. This is based on the notion that the research instruments attached in the appendices of this study had similar questions arranged in thematic sections. In addition, the research instruments were pilot tested in Harare during at design stage to ensure clarity but also measure time taken to complete interview/FGD sessions and individual completion of the questionnaire. Following the pilot-test, adjustments were made on questions 6 in the questionnaire and 12 in the Interview/FGD guides to probe respondents, interviewees and participants on their understanding of development (See appendix :).

It is worth mentioning that data collection was conducted throughout the year to avoid a dry-season bias as suggested by Laws, Harper and Marcus (2003) in their guidance on how to reduce bias in development-oriented research. In fact, conducting data collection throughout the year helped in understanding community vulnerabilities to different seasonal disasters and development challenges in three study areas of Buhera, Centenary-Muzarabani and Harare. In particular, vulnerability could be evidently observed in rural areas during lean periods when they experience food insecurity in areas like Buhera and Muzarabani (see Tables 5.1 and 5.2). Disasters and development affect the youth and elderly differently at

different times of the year particularly in rural areas like Buhera and Muzarabani. Hence, by understanding these age dynamics challenged myopically-biased views of focusing on collecting data only to a certain age range or gender (see figures 17 and 19 :).

4.5.1 In-depth Interviews and Focus Group Discussions (FGDs)

Interviews and Focus Group Discussions (FGDs) provided an opportunity to dig deeper in understanding how disasters and development are correlated. Suffice to say that 85 participants took part in FGDs. In particular, 25 were aged 21 – 30 years, while 30 were in the 31 – 40 years age range and accounting for the majority. In addition, 41 – 50 years and above 50 years age ranges were represented by 21 and 9 FGD participants respectively. Stephenson (1994) is of the opinion that disasters can both erode development gains and at the same time they can create development opportunities, while on the other hand, development programmes can both increase or decrease vulnerability. Therefore, to unpack this hypothesis in-depth interviews and focus-group-discussions were used in this study as part of a range of data collection instruments. More specifically, there are similarities in interviews and FGDs as they all entail interacting face-to-face with research participants in a natural state.

Unlike questionnaires alone, interviews and focus group discussions (FGDs) proved to be effective in the conduct of this study, as they allowed probing further or seeking clarification, observing feelings and getting opinions during interactions with interviewees, as suggested by Laws, Harper and Marcus 2003). Punch (1998:174-175) argues that interviews are "...a very good way of accessing people's perceptions, meanings, definitions of situations and construction of reality". While both interviews and FGDs can be time-consuming and expensive (Salkind, 2009), they provide a rare opportunity for people to be listened to at length. In this study, interviewees or participants (FGD) got motivated to take action as a result of sharing their stories on disaster effects and development benefits while at the same time rich data could be generated, as suggested by Laws, Harper and Marcus (Laws, Harper and Marcus 2003). In all the three areas (Buhera, Centenary-Muzarabani and Harare) people were keen to take part in interviews because the topic under discussion touched on their lives, livelihoods and the environment in which they stay. In some cases, it was easy to interview women through focus group discussions than individual interviews in line with ethical practices of respecting culture and community values/practices. Additionally, all the three themes viz; disaster and development nexus, disasters and development theory and practice, and factors that affect/influence disaster mitigation and development linkages

triggered debate during interviews/FGDs. In particular, interviewees/participants explored mitigation strategies to disasters and development issues in their own areas based on practical experiences. Remarkably, cholera, floods, drought and environmental degradation were so vivid in people's memories because of their recurrence, impact on lives/livelihoods, their trans-boundary nature and impact on development. Interviewees/FGD participants noted the trans-boundary nature of disasters and had a keen interest on disasters and development correlation. In summary, 60 interviewees took part in this study within the age range 21 – over fifty years.

Interviews and focus group discussions if well-structured they provide an opportunity to probe further or seek clarification. Babbie (1994:277) argues that "a probe is neutral, non-directive question designed to elicit an elaboration on an incomplete or ambiguous response, given in interview in response to an open-ended question". Open-ended questions in both focus group discussions and interviews coupled with probing allowed the researcher to take notes and actively listen to the interviewees/participants. People like to be engaged especially if the topic affects their lives and livelihoods. However, to achieve all this during the research

interview/discussion the researcher took time to introduce the research properly as suggested by Laws, Harper and Marcus (2003).

In practice, a Pilot study during instrument design enhanced validity in this study. Likewise, the way the questions were designed in the data collection instruments from easy ones to complex provided the appetite for the interviewees/participants to be enthusiastic in the study. Most importantly, permission was sought and made it clear that the participants were free to opt in/out of the interview/FGD at any time. Affirmatively, throughout the data collection process no interviewee/participant opted out and this might be attributed to the disasters and development discourse which generated interest and pragmatic data gathering techniques used by the researcher. Similarly, before each interview/FGD session the authorization letter from Ministry of Local Government, copies of ethical clearance from the University and valid university student identification card were shared with participant or community leadership. This made people to contribute freely and openly during interviews or FGDs.

Flexibility is one key merit in interviews/FGDs that was capitalized on in addition to the ability setting the general tone and agenda to the researcher's convenience as suggested by Salkind (2009). The scholarship

of Salkind (2009) expounds on the worthwhile investment in in-depth interviews, hence its use in this discourse on disasters and development in Zimbabwe.

4.5.2 Documentary Sources

Generally, a documentary source can be viewed as outside sources deriving from government publications, newspapers, census publications, documentary films and videos, paintings, photographs, diaries etc. This study also used documentary sources as secondary forms of data in the opinion of their credibility, authenticity, representiveness and easy to access as pointed by Laws, Harper and Marcus (2003) and Mogalakwe, (2006), thus using the documentary sources as tools for cross-checking data from primary sources. Additionally, documents were reviewed to identify theoretical and policy related issues on disaster management and development frameworks at macro and micro levels. Nevertheless, disasters and development are not immune to policy guidance and existence of documentary evidence. But instead the two variables exist in a society with policy and regulatory frameworks that are either electronic or hard copies. The Zimbabwe Government Printers (Printflow), public institutions, libraries and international organizations provided the much need documentary sources for both disasters and development fields.

Notwithstanding the above, Laws, Harper and Marcus (2003) support the use of documentary sources by highlighting that they add authority to the study, reduce duplication. Similarly, for someone to influence policy there is need to show knowledge of existing policy frameworks. In this study documents that were reviewed include but are not limited to; the Stephenson's disasters/development conceptual nexus, Disaster Risk Reduction materials/policies and Protocols/Agreements, the Hyogo (2005 – 2015) and Sendai (2015 – 2030) Frameworks for disaster risk reduction, the Zimbabwe Civil Protection [Chapter 10:06 5/1989 3/1992 22/2001 (s.4)], Public Health [Chapter 15:09], Environmental Management [Chapter 20:27] Acts, ZIMSTAT for statistics, Millennium Development Goals (MDGs), Zim Asset policy and local authorities by-laws.

A critical issue in using documents confirms with the study topic that looks at theory and practice. Hence, documents reviewed provided the much needed theoretical look and in some cases the documented practice in disaster management and how disasters correlate with development. Simply put, documentary sources review provided the checks and balances on the phenomena under study. This complemented and triangulated data collected through interviews, FGDs, observations, questionnaires and field

visits. A thematic approach was used in the review of documentary sources to remain focused. This was guided by three key study themes namely; disasters and development nexus, theory and practice and, disaster mitigation and development factors. Documentary sources provided access to inaccessible research subjects such as; policy makers and senior Government of Zimbabwe officials through policies, publications, news and protocols (regional and international). This was done overtly without compromising on ethical principles on the use of documentary sources as highlighted by the University of Portmouth (2012). This complements the University of Fort Hare research ethics guidelines. Revealingly, documents reviewed confirmed their benefit in research that includes: elimination of the researcher's bias, relatively low cost, access to contemporary information that is of high quality and well detailed as underscored by the University of Portmouth (2012). Although documents can be time-consuming, their usefulness in this thesis outweighed the disadvantages. Their added value is what Salkind (2009:210) suggests thus: "Documents also serve to confirm or contradict information gathered through other means".

4.5.3 Observation

Marshall and Rossman (1989:79) defined observation as a systematic description of events, behaviour and artefacts. A deliberate thematic, area

specific and systematic participant observation was used to generate some qualitative data. Observations were used to triangulate information during focus group discussions or interviews. Therefore, participant observation complemented other data collection tools.

In the same vein, field visits were undertaken in Buhera, Centenary-Muzarabani and Harare where observations helped in making references or probing during interviews/FGDs, while clarification was sought on certain concerns. Issues observed included environmental degradation, forest fires, toxic waste, industrial discharges, boreholes sunk in response to cholera outbreaks, water supply systems repair in Harare particularly, (disasters and development linkages). In addition, varying climatic conditions, small grains, wild fruits “Masau” (Ziziphus mauritiana) that are used in times of famine stress in Muzarabani, and geographic features were also observed.

Selecting observation to be among a range of data collection tools for this thesis was not by default but was deliberate as it provided a visual picture that provokes multiple questions. Without doubt both qualitative and quantitative data is generated in the process. A review of literature shows that Laws et al., (2003:305) suggest that the strengths of observation

includes its ability of being systematic and rigorous, generation of data in a short time that can form the basis of discussions in interviews/FGDs and records what people do rather than what they say.

Arguably, observation was used to understand the formal and informal networks as put forward by Salkind (Salkind, 2009). Such formal and informal networks include, but not limited to: Village Development Committees, Environmental Management Committees, Civil Protection Committees, social groupings, NGO networks, community volunteers, chamber of commerce, public authorities' structures, technocrats, extension services in communities, village structures, urban structures and individuals.

4.5.4 Field Visits

Understanding disaster effects and development programmes and how they affect people cannot be done purely as a desktop research as one can miss on the pragmatic and contextual issues. While field visits can be time consuming and one can encounter challenging road terrains, but in this thesis it was worth investing in. Just like observation, field visits complemented other research tools and allowed the researcher to understand the socio-political-economic, environmental and technological

dynamics that can push or reverse the progression of vulnerability. Suffice to say, that the field visits and interaction with local people provided valuable insights on how disasters and development was theoretically perceived and practiced in rural, peri-urban and urban areas in Zimbabwe.

4.5.5 Questionnaires

Laws, Harper and Marcus (2003:306) described a questionnaire as "...a written list of questions, either given or posted to respondents, who will fill it in themselves". Hence, they are applicable in a context where the respondents are literate, which cannot be doubted in Zimbabwe because of literacy rates that are above 90%. In this case Buhera accounted for 10 respondents while on the other hand Harare had three respondents. This study used the semi-structured questionnaires mainly in Harare and Buhera to respondents that did not have time for interviews. In Centenary-Muzarabani most research participants were available for interviews or FGDs. The questionnaires were structured almost the same way with interview and FGD guides. The study considered that capturing the views of rural, peri-urban and urban populace on disasters and development required the use of thematically structured instruments. This made data coding, merging and analysis easy. Thirteen questionnaires were distributed directly by the research and research assistants, and a 100 per

cent response rate was achieved mainly due to follow-ups by the researcher and research assistants.

Zimbabwe has high literacy levels in both rural and urban areas. In fact, UNDP (2013) rates Zimbabwe to be the country with the highest literacy levels in the whole of Africa with a rating of over ninety per cent. Hence, respondents were able to easily complete the questionnaires. Simplified questions were used in the questionnaires to avoid misconceptions and to ensure that all levels of literacy were accommodated. Respondents from questionnaires also got copies of university and government permission documents as attachments. This was in line with research ethical considerations. Explanation on the purpose of the study was given to respondents during the physical delivery of questionnaires or through email. Respondents were given the opportunity to opt in/out of the research process at any time, but were encouraged to be part of the interesting scholarly debate on disasters and development. The use of questionnaires further strengthened triangulation and validity. Therefore, the findings of this study are scholarly rich and the arguments in the body chapters are based on information gathered from multiple triangulated sources that reveal a mismatch in theory and practice on disasters and development in

Zimbabwe, that need to be strengthen through a Neo-Stephenson theoretical framework proposed in Chapter three.

Disaster management and development fields are normally seen as antagonistic. Therefore, the use of a single tool in this study could not adequately reach out to multiple diverse audiences and capture their opinions in the study phenomena. This justifies the use of questionnaires as part of mixed methods approach. Questionnaires were not used in Centenary-Muzarabani because of their time consuming nature (Punch 1998; Leedy and Ormrod, 2005). However, interviewees/participants were reached through other data collection tools like interviews/FGDs, observations, field visits and document review. Progressively, in research one cannot rule out the use of both qualitative and quantitative techniques as this facilitates methodological and data triangulation followed by either inductive or deductive analysis/interpretation of overlapping complex social studies web that is intricately inter-woven. This can be exemplified by the approach taken in this study in a bid to provide strong empirical evidence on disasters and development in Zimbabwe from both theoretical and practical perspectives. While questionnaires were limitedly used in this study but one cannot underestimate their benefits that include; their ability to reach out to a large audience, they are a cheap way of collecting data

and easy to analyze it and respondents do not feel threatened by interviewer presence (interviewer effect) (Laws, Harper and Marcus, 2003).

4.6. VALIDITY AND RELIABILITY

Turning to reliability and validity in this research it is vital to conceptualize first what they are and then look at how they were applied in the study. According to Leedy and Ormrod (2005:29) “reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured hasn’t changed”. While on the other hand, validity is “... the extent to which the instrument measures what it is supposed to measure”. Salkind (2009:110) weighs in scholarly, suggesting that “reliability occurs when a test measures the same thing more than once and results in the same outcomes”. In this study the instruments used like interviews, FGDs (in all three locations) and questionnaires (Buhera and Harare) were able to reveal the consistency measurement in the responses they managed to yield in geographically unique and distant locations.

On validity, the data collection instruments for this study were supposed to measure the disasters and development nexus theoretically and practically. This is exactly what they did, based on thematic areas of; disasters and development nexus, disasters and development – theory and practices and

factors that affect/influence disaster mitigation and development linkages. Therefore, one cannot doubt the internal validity in this study because the thematic design and logical data collection allowed the researcher to draw accurate conclusions on the disasters and development correlation as suggested by (Leedy and Ormrod, 2005). External validity was promoted through triangulation and the use of multiple data collection tools and the adoption of the mixed methods approach.

4.7 PROCEDURES DURING DATA COLLECTION

This disasters and development study theory and practice in Zimbabwe has is pedigree rooted in the mixed methods research paradigm. This allowed the researcher to gain insights, scholarly dig deeper into phenomenon, get the zeal to unpack synergistically the conceptual and practical linkages of the two variable fields of disasters and development from an inter-disciplinarily or trans-disciplinarily case study perspective. Understanding marriages of variables that are normally viewed as in variance from a face value perspective required the use of interviews, focus group discussions, observations, case study, undertaking field visits to Buhera, Centenary-Muzarabani and Harare, review/analyze documents/policies and administering questionnaires. Three research assistants were trained on

how to administer the instruments and ethical issues for consideration before they could support the data collection process in the field.

The community members, community leadership, civil society, local authorities, civil servants, policy makers, the academia, development and disaster management practitioners formed the core respondents of this study. In this regard, interaction was made with 60 interviewees (47 males and 13 females) while FGDs accounted for 85 participants (29 males and 56 females). The FGD participants are further broken down to five males and fifteen females in Buhera, three males and thirteen females in Harare and twenty-one males and twenty-eight females in Centenary-Muzarabani. Questionnaires accounted for 13 respondents of which ten respondents were males (76.92 percent) while three were females (23.08 percent) drawn from Buhera and Harare areas. Cumulatively, 158 subjects voluntarily participated in this study and their demographic profiles are highlighted in the findings. The research participants are broken down as follows; 65 for Centenary-Muzarabani constituting 41.14% of the study subjects, Buhera had 55 respondents or a score of 34.81%, while Harare participants were 38 or 24.05% (see table 4.1). To confirm with ethical practices visits were undertaken to district and provincial authorities prior to the actual undertaking of the data collection to inform them on the study, the schedule

for data collection and deliver of copies of authorization letters. In addition to that appointments were sought in advance with interviewees/participants or respondents. At community level, the researcher or in some cases the research assistants sought permission from traditional and local governance leadership.

At the beginning of each interview session or on the questionnaire participants/respondents were assured of data being anonymous and issues relating to confidentiality of information provided. To ensure that both qualitative and some quantitative information was captured, Likert-type semi-structured interview guides, FGDs and questionnaires formed part of the data collection tools and procedures. These tools form part of the appendices of this study. Questions asked during interviews, FGDs and in questionnaires included; open-ended ones and scaled or rating responses like: strongly agree, moderately agree; strongly disagree; very severe, moderately severe, very low; and very progressive, progressing, slowly progressing, stagnant, as well as frequency and seasonality timelines. These questions did not seek to get the interviewee's or respondent's name in the interest of protecting their identities and enhance confidentiality.

Remarkably, some disruptions were encountered especially at community household levels while conducting interviews. However, these were minimal and the researcher used the technique of recapping from previous discussion so as to remain focused. Hence, in a few cases this resulted in the interviews being prolonged. During focus group discussions the researcher was able to deal with individuals who dominate by asking others who were quiet to make contributions. To allow meaningful contributions FGDs were kept between 4 and 12 people, varying in composition from location to location. Additionally, during FGDs the researcher bounced back questions to the group to validate contributions as suggested by (Laws, Harper and Marcus, 2003). Most importantly participants were thanked at the end of each interview session and a statement of appreciation was also included in the questionnaires.

Understanding the seasonality of activities is crucial and pre-visits to the area where one is going to collect data are crucial. For example, at the time of data collection communities in Centenary-Muzarabani were involved in seasonal gardening activities. Hence, it was easy to conduct focus group discussions in areas where they were working than visiting homes or leaving questionnaires which they could not have time to look at because of the need to focus on livelihood activities. The multiple techniques in

questioning/interviewing coupled with a variety of instruments used mitigated reaching redundancy quickly, given the spatial nature of the research areas.

4.7.1 Learning from field research – Practical guidelines

In the process of conducting research one is bound to face challenges and setbacks. However, it is important to look at the mitigation measures or contingency plans for such setbacks in a more practical way. Questionnaires required emailing in the case of Harare, face-to-face delivery in Buhera, coupled with explanation and repeated efforts in following up. Hence, they were time consuming a notion arguably supported by Laws et al., (Laws, Harper and Marcus, 2003). As part of the mitigation measures the researcher limitedly used this technique to 13 respondents only in Buhera and Harare, and left it out in Centenary-Muzarabani where the thrust was more on interviews and focus group discussions. Remarkably, the researcher focused on interviews, FGDs, observations, documentary sources review, field visits because of the qualitative bias of the case study, though the research is underpinned on mixed methodology approach. At the time of conducting the study some communities in rural, peri-urban and urban areas were involved in livelihood activities in one form or the other, hence the need for flexibility on timing and location to ensure

full undivided participation. In addition, I worked with research assistants that helped in providing advance notification and sensitization. The researcher and research assistants took advantage of social and livelihood activities by visiting the interviewees/participants in areas convenient to then, but also being cautious not to disrupt their activities. Interestingly, in Muzarabani a visit to areas where communities were carrying out livelihood activities like gardening provided insights on environmental degradation through stream bank cultivation. Revealingly, in Muzarabani some of the community livelihood activities focused on “survival for now” not looking into the future as enshrined in sustainable and Disaster Risk Reduction approaches. Travelling and undertaking field visits required transport, fuel, accommodation and financial resources. To reduce the cost of hiring transport, the researcher used the family 4 x 4 vehicle to access challenging terrains, stayed overnight in some cases in the community allowing for interviews to take place early and finishing late.

4.8 DATA ANALYSIS

Data collection, capturing, analysis and interpretation should be envisioned right at study conceptualization level, guided by the topic/problem, hypothesis, sub-problems and variables under investigation. The mixed methodology research design and techniques provided pointers on the

approach that can be used in data analysis. In this case study the mixed methodology for data analysis was adopted. It is important to highlight that in this disasters and development discourse the design of the instruments was divided into thematic areas by simply converting the key research questions and hypothesis. This resulted in three major themes namely; disasters and development, followed by the theory and practice section, then disaster mitigation and development factors, and another section on other issues for consideration. In the data collection process information was entered directly on hard copy sheets (interview, FGD and questionnaire guides) with some key opinions or testimonials or textual data being thematically captured in the note books. Notably, on several occasions the researcher had to read through the data and notes from interviews/FGDs, observations, documents or field visits and documentary sources to ensure thoroughness as suggested by Laws, Harper and Marcus (Laws, Harper and Marcus, 2003:395 – 421edit). Subsequently, the information was immediately captured in Microsoft Office Excel spreadsheets (which performed similar functions like Statistical Package for Social Sciences (SPSS). This was followed by coding and analysis, as postulated by (Leedy and Ormrod, 2005:303 - 307). Therefore, to mitigate on data loss, backups included cloud, external hard drives and regularly sending to the researcher's emails. Textual data, testimonials and observations require

capturing while the memory is still fresh and this was done on daily basis during data collection. An analysis and interrogation of the disaster and development issues are discussed in detail in chapters five and six.

The next steps after completing the field data collection in all three locations was to analyze each question. The FGD and Interview guide questions were similar and easy to analyze while the questionnaire had less probing questions but also highly similar to the other two questions. Therefore, the researcher picked questions that were similar across the three data collection instruments, followed by additional questions that were in the interview and FGD guides but not in the questionnaire. Similarly, textual data collected through observation was arranged according to research thematic areas, while documents reviewed were coded and analyzed according to the disasters and development discourse themes. This approach was adopted from the suggestions by Hofstee (2006:140 - 144). Notably, an approach similar to the analytical inductive grounded theory approach provided a strong framework in thematic analysis of data in this study. Arguably, Mouton (2001:150) posits that analytical inductive and grounded theory approaches provide strong analytical frameworks in cases studies. These views are also supported by Strauss and Corbin (1998) and Charmaz (2002) who suggest open coding that shapes initial concepts

followed by thematic grouping or categorization of data, to guide in interpretations and discussion just like building blocks used to build a house. In this case study the thematic blocks were used to build the body chapters and the alternative DRR Neo-Stephenson theoretical framework.

Additionally, this study adopted the spiral data analysis approach of moving spirally from raw data, to organizing, followed by perusal, then classification, synthesis leading to production of final report as put forward by Creswell (1998 cited in Leedy and Ormrod 2005:151). Correlations and opinions on disasters and development nexus, or whether disaster or development is local were also quantitatively and qualitatively populated and analyzed. Notably, both the inductive and deductive approaches were employed in this study as part of the mixed methods data analysis approach. Findings are presented, analyzed, interpreted and discussed according to themes. Therefore, unpacking common themes, trends, and common themes and then compared to theory and practice, with a blend on what literature authoritatively says against empirical evidence. Conclusions in this case study are based on well captured data, analyzed and interpreted information to inform theory and practice and future research. Remarkably, the scholarship of Laws, Harper and Marcus (2003:395 - 421) and Hofstee (2006), were pragmatically helpful as they offered a step-by-step guide that

mitigated falling into pitfalls. Equally, an understanding of the geographic and demographic profiles of the areas was paramount in data collection and analysis, as detailed below.

4.9 THE STUDY AREAS: GEOGRAPHIC AND DEMOGRAPHIC ANAYLYSIS

The geographic, topographic and demographic profiles for Buhera, Harare and Centenary-Muzarabani varies in features and composition. For instance, Buhera is a rural setting, while Centenary-Muzarabani exhibits both peri-urban and rural settings. On the other hand, Harare is a metropolitan urban settlement that is industrialized and mechanized. Generally, all these three areas are underpinned by the disasters and development linkages as a common denominator. Likewise, all other areas in developing nations like Zimbabwe that share similar patterns and trends when it comes to hazards, disasters, vulnerability and development.

Contextually, Buhera district is located in the South-East part of the country in Manicaland province. The rainfall in most parts of Buhera fall within the range of 450 – 650mm per year or less, subjecting the district to chronic and recurrent droughts as well as dry spells during the rainfall period. In particular, Buhera is entirely classified as communal with three distinct

natural regions III, IV and V in proportion of 32%, 34% and 34% respectively (Mvumi, Donaldson and Mhunduru, 1998:1). Applying this view to local context, reveals that Buhera susceptible to droughts.

Respondents in Buhera cited drought as one of their major and recurrent disasters. Additionally, respondents revealed that the district is susceptible to other hazards at varying degrees and frequencies. The area is also endemic to malaria. In addition to the above, communities in Buhera eat 'chakata' – a wild fruit in years of drought and sell their livestock or asset as part of negative coping mechanisms that subject them to realms of poverty. Similar practices were also noted in Muzarabani, while in Harare respondents indicated that they crossover to neighbouring countries 'diaspora' for jobs as part of the coping strategies.

The inhabitants of Buhera settled there mainly as a result of the Land apportionment in the 1930s which resulted in native Zimbabweans being allocated low economic and unfertile areas (Government of Zimbabwe, 2002). To some extent one is justified to say that poverty in Buhera in not derived from naturalness but it is an engineered act through the colonial past of Land apportionment of the 1930s. Ultimately, the geographical location of Buhera, coupled with limited livelihood sources and low

economic or productive activities exposes the district to realms of poverty and vulnerability. To a large extent most of the poor people end up relying on humanitarian programmes leading to dependency. Furthermore, the Zimbabwe Statistics Agency (2012) reported that the population for Buhera district stood at 245,878 people (131,772 females 53.6% and 114,106 males 46.4%) drawn from 32 wards. The major ethnic group is Shona, with some Ndebele located mainly in Gwebu area. All these groups regardless of ethnicity are exposed to a host of hazards peculiar to the district and they face similar development challenges. This is exacerbated by a mismatch between existence of policies on disasters and development versus their pragmatic implementation.

It is worth noting that as of 2016, Buhera district hosted two major irrigation schemes located at Murambinda in the north and Birchenough in the south. However, functionality of these irrigations, especially the Murambinda one, has become seasonal owing to a number of factors such as: breakdown of equipment, lack of constant water supply as Mwerahari River dies up rapidly. The Marovanyati dam that was supposed to prevent the water shortages and facilitate the expansion of irrigation schemes in Buhera has remained a reverie. More specifically, thirty-eight respondents (69.1%) from Buhera (N = 55) suggested that the Marovanyati Dam project has been

moving at a snail pace due to financial constraints and lack of political will. In addition, the once perennial Save, Mwerahari and Nyazvidzi Rivers that cut through Buhera district have suffered heavily from siltation caused by stream-bank cultivation, erosion and environmental degradation. Environmental Management Agency (2007) clearly states that stream-bank cultivation is illegal in Zimbabwe. Further, EMA (2007) suggests that a number of researches have revealed that sediment-laden cloudiness in rivers apparently is mainly caused stream-bank cultivation. Hence, steady flows are now limited to the rainfall season in Buhera's major rivers. This raises a lot of concerns when it points to the notion that environmental, water management and disaster management policies are being limitedly enforced. Henceforth, in practice sustainable development is compromised.

Buhera district has potential for development and poverty eradication through investments in ecotourism. This illuminating ecotourism idea could be promoted through places like Matendera Ruins – a heritage place, and Ruti dam for recreational purposes. However, this potential is not being fully capitalized. Respondents in Buhera rekindled their memories of good times in the 1980s and 1990s when Ruti Dam used to be a hive of activities especially during holidays when boat operators engaged in sailing and fishing. However, potential for such attractions and the aspects of ecological

modernization have not been galvanized within the district. This is further worsened by poor road network linking the main district centres (Murambinda and Birchenough) with these tourist sites.

The two mines (Dorowa and Shava) operating in Buhera have not shown much efforts of investing in the community where they are extracting their minerals. Dorowa mine for example, has got heavy duty mining equipment that could be mobilized to assist in the construction of small-scale or major dams like Marovanyati. However, on another note a snapshot of Dorowa mine dumping area revealed some positive efforts in mitigating environmental degradation through tree planting and some aspects of reclaiming the land. Nevertheless, more can be done to facilitate sustainable development through disaster risk reduction and benchmarking development of on ecological modernization. In this view, development and modernization may alleviate environmental impacts rather than adding to them (York, Rosa and Dietz 2003). In summary, Buhera district's geography reveals high levels of vulnerability, multiple hazards and minimal investment in resilience building. Therefore, investing in disaster risk reduction strategies becomes an undeniable choice for Buhera's inhabitants if sustainable development is to be attained.

As a result of the triangulation mixed methodology approach Centenary-Muzarabani formed part of the study locations. This is a district in the northern part of the country bordering with Mozambique. ZIMSTAT (2012) reported the population for Centenary-Muzarabani to be at 122,791 (61,631 females 50.2% and 61,160 males 49.8%). Shona is the main language spoken by local the people in the area and most inhabitants in the Muzarabani area settled there after the colonial war from other districts like Gutu, Buhera, Hwedza and other areas. They were driven by the passion for search of productive farming land given the agro-based nature of Zimbabwe.

Contextually, the district has two major distinct areas, that is, Centenary on the upper area and Muzarabani in the lower area. Tobacco and Maize are the major crops grown in Centenary. Recurrently, between February and March at the peak of the rainfall season Muzarabani experiences floods when Musengezi River fails to discharge water into the Zambezi River resulting in back flow. During a focus group discussion, it was clear that floods that happened in 2000/1 left vivid and traumatic memories to the people of Muzarabani. One of the respondents suggested that transfer of patients to secondary and tertiary hospitals is a challenge during the rainfall season as the local clinics get cut off due to floods or when bridges are

washed away by heavy rainfall. Furthermore, a document review shows that in 2014 Muzarabani was also hit by severe floods that resulted in bridges being washed away particularly in Chadereka, Ndove, Bore and Museredza areas (The Herald, 2014). Muzarabani literally translates to floodplain in the local Shona language. The study reveals that floods was well known by Muzarabani inhabitants. Hence, they all seem to have accepted to live with some acceptable levels of risk because of the benefits that come from fertile soils. A view that is supported by ISDR (2004) which suggested that when it comes to issues of acceptable risk there is a need to take into account economic, political, and social trade-offs of what the society or community cannot afford to lose.

A study by Gwimbi (2004) on the impact of 2000 floods in Muzarabani revealed that there is a significant correlation between floods impact and the geographical location of the communities in the floodplain. Interestingly, once the area is flooded communities in this area grow maize along the river bad or valleys as part of diversifying incomes sources at the expense of environmental degradation. This crop is harvested around June or July when maize is off season except in areas where there are irrigation facilities. This type of maize has earned a name called “mudzetse” from the locals who sell it as green corn to urban areas such as Bindura, Mazowe,

Grendale, Centenary, Harare, Chitungwiza, Ruwa and Norton. These are some of the trade-offs that Muzarabani community cannot afford to lose. However, on the contrary, this practice goes against the goals of sustainable development because it increases the high chances of sediment-laden cloudiness of Musengezi River and its tributaries (EMA, 2014).

The Mavhuradonha Mountain Range which hosts the National Park separates the upper and lower parts – Centenary and Muzarabani respectively. To some extent, wild animals also wreak havoc on crops and compete with the local population in harvesting a popular wild fruit known as “masau” that is sold in markets located in urban and peri-urban areas. Notably, harvesting “masau” is a negation coping mechanism in communities with high vulnerability and poverty. The Herald (2014) reported that wild animals are spotted in certain areas in the game park and its environs. However, during field work it was evident that the national park had suffered heavily from poaching in recent years, thus compromising on ecotourism and sustainable development. Uniquely, Centenary-Muzarabani is endowed with vast natural resources and fertile soils that could make the area a ‘green-belt’ if there is enough water for irrigation.

The study findings reveal that investment in tree growing and care or soil or animal conservation has not yet taken roots in Centenary-Muzarabani in totality. During interviews and focus group discussions it was clear that the interviewees had some knowledge of EMA, public health and Zim Asset policies. However, there was very limited knowledge of the Civil Protection Act and how it is implemented at local level. Likewise, government efforts in terms of policy implementation and resourcing could not be visibly seen or expressed by the people living in this district. In this sense, disasters and development theoretical and practical linkages remain a gap in Muzarabani if the name 'floodplain' is to exist from generations to generations.

Harare metropolitan city forms the third area of study in this disasters and development nexus discourse. Suffice to say that Harare houses a number of industrial, residential and commercial areas and offices. It is linked with modernized road, rail and air infrastructure that is supported by mechanized systems. Harare is the capital city and the administrative centre for all ministries, policy makers and public/local authorities. Likewise, it is the nerve centre for commercial/economic/development activities in Zimbabwe, the strategic operational hub for NGOs, UN, donors, academia and international organizations. Ethnically, Shona speakers are a dominant

group but other languages like Ndebele, Chewa or Nyanja are also spoken in Harare, with English as the official and unifying language.

According to ZIMSTAT (2012) census report Harare's population (including Chitungwiza and Epworth) stood at 2,123,132 (1,097,536 females 51.7% and 1,025,596 males 48.3%). Hence, this ballooning population has put pressure on services like water, sewage, health delivery system, roads, other social services and accommodation. In particular, this has increased the area's vulnerability, frequency and intensity to natural and human-induced hazards. Interviewees in Harare cited urban poverty as a key factor that is increasing people's vulnerability. Correspondingly, a study published by UNICEF (2014) with a focus on two high density suburbs of Harare revealed that not only was the prevalence of poverty high but the depth and severity of poverty were also high and of concern. Further, UNICEF (2014) suggested that addressing urban poverty requires a holistic, multi-sector and multi-stakeholder approach, involving poverty and vulnerability reduction, with a focus on enhancing livelihoods, massive investment in urban infrastructure. Accordingly, such strategies suggested by UNICEF fall within the Disaster Risk Reduction ambit.

Harare itself is situated within the headwaters of the upper Manyame catchment basin that features three *ramsar* or wetlands sites, namely: Monavale, Cleveland dam and Lake Chivero/Manyame (EMA, 2014). In fact, these wetlands are the primary sources of city of Harare's water even though these water sources have suffered heavily on toxic, general and human waste pollution. The culture of recycling materials has not fully taken root according to interviewees and observations during field work.

In addition to the above, in 2008 and 2009, a number of suburbs in Harare were affected by cholera, dysentery and typhoid cases when residents were drawing water from the open unprotected water sources – wells. Chirisa et al (2015) are of the view that inadequacy of safe and clean water in most suburbs, the collapse of the waste management, water supply and sanitation systems of city of Harare contributed to an increase in oral-faecal diseases such as cholera. In summary, respondents from focus group discussions highlighted that the 2008 and 2009 cholera has been the worst to hit Harare when people's resilience was at its lowest and urban poverty and vulnerability was on the increasing scale. Similarly, pollution of wetlands and water sources for Harare through toxic and human waste has resulted in increased use of chemicals to purify water for human consumption. There has been a proliferation of boreholes as residents

search for continuous water supply while some have resorted to the installation of indoor water filters as they no longer trust the City of Harare water system. Ironically, in the past Zimbabwe and Harare in particular used to have safe potable water that was rated among the best in Africa. If disasters and development synergies were promoted these hazards could have been mitigated through a disaster risk reduction approach sustainably. Ecological modernization could be adopted as a means of reducing toxic waste and pollution of water bodies. Most importantly, the enforcement of policies like EMA and Public health can cement the disasters and development correlation and mitigate the progression of vulnerability.

Figure 16: Examples of polluted water from carbon filters at a household in Harare

Figure 16: Examples of polluted water from carbon filters at a household in Harare – Source: Fieldwork (2014).

In other words, rapid urban growth, mechanization and industrialization without adequate service delivery in; social services, health, water and waste management is a mélange for disasters. In particular, ZIM Asset (2013) acknowledges the erosion of development gains in social/physical infrastructure as well as social protection. Thus, weak social safety nets and

a trifle service on disasters and development linkages catalyzes rapid progression of vulnerability and incubation of disasters. On the hand, Harare's volume of traffic has increased significantly. In reality, the emitted smoke contributes to air pollution, a concern for environmental hazards through burning of fossil fuels. In sum, such pollution violates the provisions of the Environmental Management Act – Chapter 20:27 of 2002, Public Health Act Chapter 15:09 of 1996, Development policies, city by-laws and other environmental as well as public health related policies. In sum, the geographic and demographic information unpacks the need for strong disasters and development linkages theoretically and practically. Furthermore, disaster risk reduction conceptualization and implementation should be enhanced as a means of promoting disaster mitigation and development linkages in a sustainable way.

4.9.1. Demographic Dashboard Profile for Research Participants

This section summarizes the demographic profile of study interviewees, FGD participants and respondents. Figure 17 below summarizes the age profile of interviewees, research participants and respondents according to age ranges.

Figure 17: Age Profile

N = 15

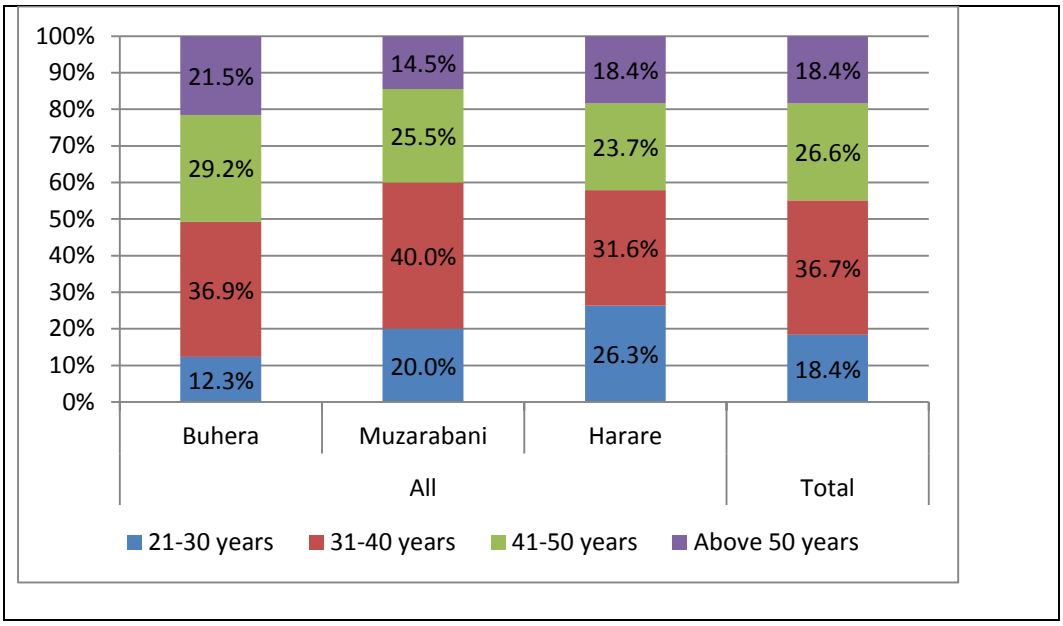


Figure 17: Age Profile

Figure 17 above shows the age ranges for the respondents. Cumulatively, the age range 31 – 40 years accounted for the majority of the respondents (36.7%) followed by the 41 – 50 years age range standing at 26.6%. Age ranges 21 – 30 years and above 50 years equally shared 18.4% each. Comparing the age ranges to each case study shows that Harare had more youth participating in the study followed by Muzarabani and then Buhera at 26.3%, 20% and 12.3%, respectively. Buhera, on the other hand, had the highest proportion of above fifty respondents (21.5%) in this study.

Table 4:1 provides insights to the interviewees, focus group discussion participants and respondents to questionnaires disaggregated according to gender.

Table 4.1: Study Respondents

N = 158

Interview Guide				**FGD**				**Questionnaire**		
Buhera	**Muzarabani**	**Harare**	**Total**	**Buhera**	**Muzarabani**	**Harare**	**Total**	**Buhera**	**Harare**	**Total**
20	13	14	**47**	5	21	3	**29**	8	2	**10**
5	3	5	**13**	15	28	13	**56**	2	1	**3**
25	16	19	**60**	20	49	16	**85**	10	3	**13**

In sum, 46% females and 54% males participated in this study as reflected in figure 18 below. On the other hand, figure 19 reveals that Buhera study participants, interviewees and respondents were 40% females and 60% males, Centenary-Muzarabani's gender distribution was 48% females and 52% males. Harare study participants were split at 50% each for both females and males.

Figure 18: Summary of research interviewees, participants and respondents according to gender

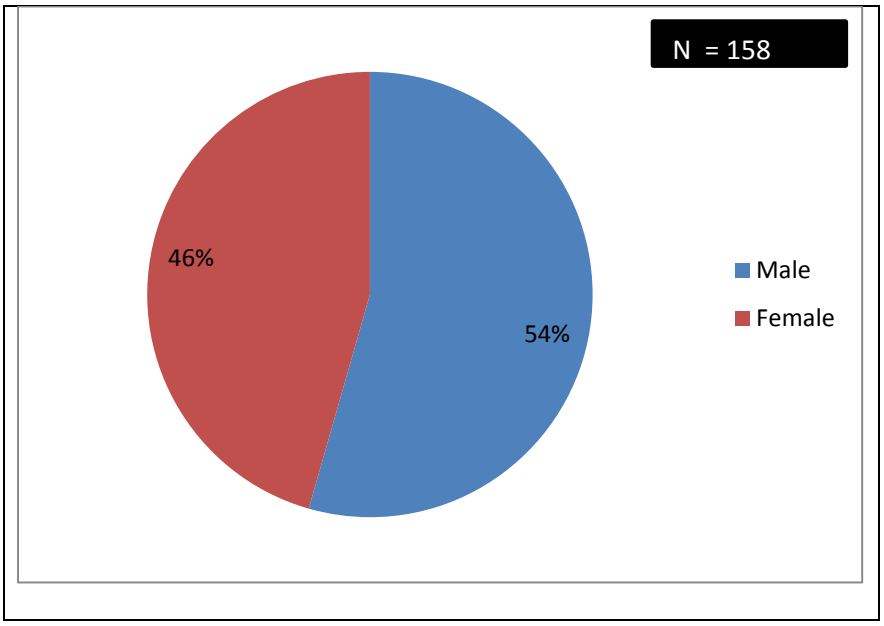


Figure 18: Summary of research interviewees, participants and respondents according to gender

Figure 19: Gender of respondents according to study areas.

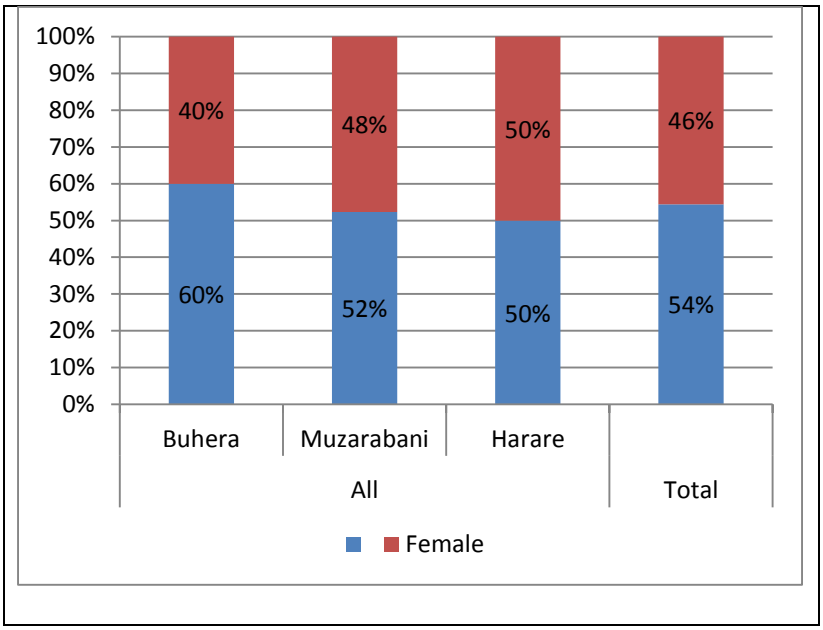


Figure 19: Gender for respondents according to study areas.

Buhera had the highest percentage of males that participated in the study standing at 60%. Notably, both male and female respondents in Buhera cited drought, poverty and high vulnerability as some of the key issues that affect the disasters and development linkages. Environmental degradation in Buhera was highlighted as alarming leading to siltation of major Rivers (Save, Mwerahari and Nyazvidzi). Hence, a comprehensive disaster risk reduction programme need to be implemented if sustainable development is to be achieved.

Table 4.2: highlights the key focused observations during field work. The observations were combined with interviews in which participants' insights were thematically probed and triangulated with the issues under observation. Accordingly, fundamentals of observation as postulated by Werner and Schoepfle (1987, as cited in Angrosino and de Pérez, 2000) guided the observations. In short, the five observations are summarized in Table 4.2 below.

Table 4.2: Focused observations during fieldwork

Study area	**Number of Observations**	**Key Issues Observed**
Harare	2	Water pollution at end user stage
		Environmental, Toxic/waste pollution and wetland sites
Muzarabani	2	Veld fires in Centenary resettlement areas
		Streambank cultivation (gardening) in Muzarabani
Buhera	1	Drought conditions and limited water harvest initiatives
Total Observations	**5**	

Figure 20: Organizational backgrounds of study respondents.

N = 158

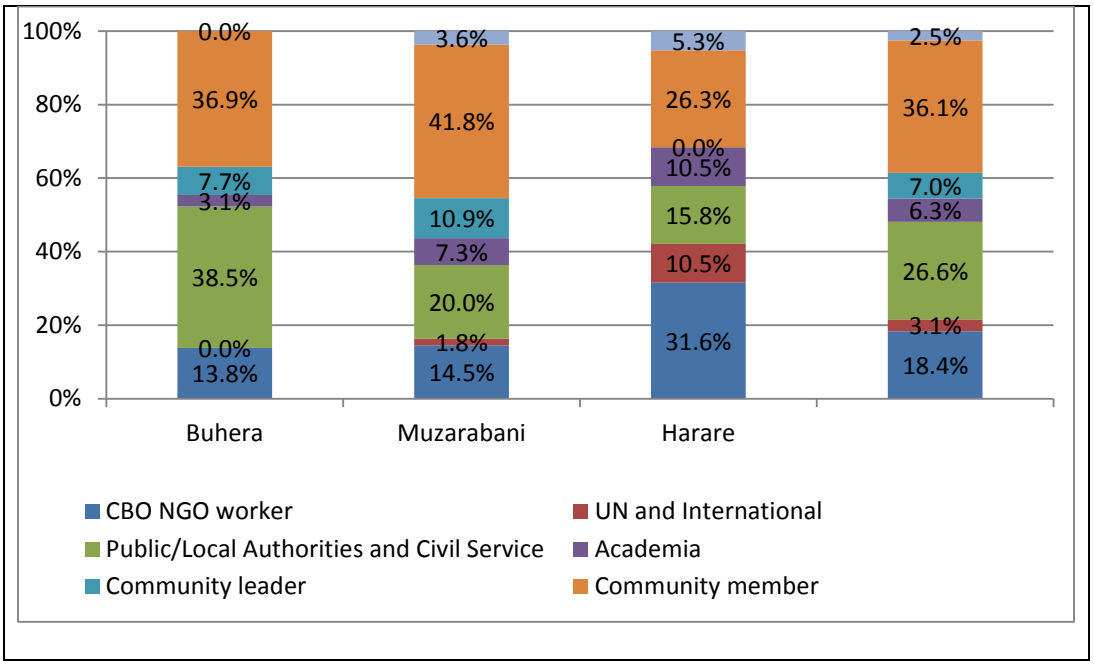


Figure 20: Organizational Profile for study Respondents

Revealingly, the respondents for this study were drawn from diverse backgrounds in line with the triangulation methodology that allowed for well-grounded and well-thought views in terms of the findings for this disasters and development thesis. The same applies to the varied educational background shown in figure 21 below.

Figure 21: Educational Background of Study Respondents

N = 158

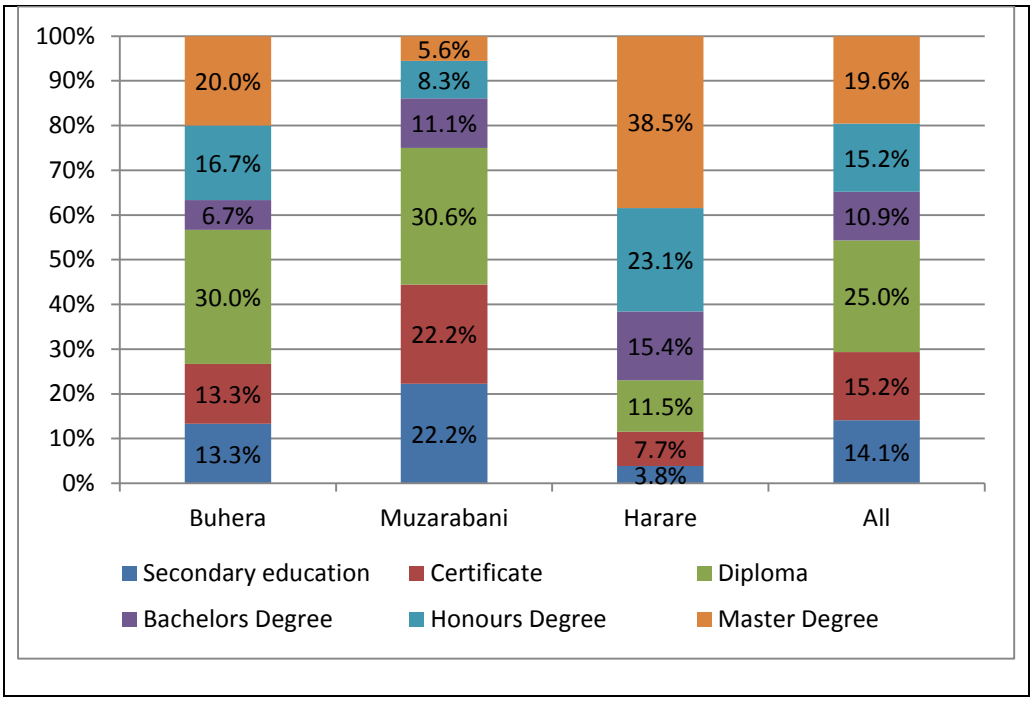


Figure 21: Educational Background of Respondents

In sum, there were eleven focus group discussion sessions distributed as follows: two in Harare, three in Buhera and the remaining six were conducted in Centenary-Muzarabani.

4.10 CONCLUSION

This chapter provided a detailed road map guided by the mixed methods research design on disasters and development theory and practice in Zimbabwe. Particularly, the use of interviews, FGDs, observation, field visits and document review/analysis in this disasters and development thesis enhanced methodological triangulation. In addition, using an array of data collection techniques facilitated building of well-grounded arguments in the body chapters of this study. Hence, this provided ingredients for the development of an inter-twinned alternative disasters and development conceptual framework from a disaster risk reduction perspective. In particular, an alternative DRR conceptual approach provides a platform for allows communities to ensure sustainable development at all levels while, at the same time, promoting resilience building and disaster mitigation. The chapter concluded by looking at the geography and demographic profile as well as analysis of study areas and the respondents. The next chapters focus on the findings, summary, conclusions and recommendations.

CHAPTER 5: PRESENTATION OF DATA AND ANALYSIS

5.1 INTRODUCTION

This chapter gives a detailed description of the findings on the disasters and development nexus in Zimbabwe from theoretical and practical perspectives. The chapter begins by unpacking the Zimbabwean household information and vulnerability. The subsequent discussion thematically looks at the correlations of disasters and development, followed by analyzing the theoretical and practical perspectives related to disasters and development. Further, the factors that affect or influence disaster mitigation and its linkages to development are discussed. Contextually, the discussion examines disaster and development in relation to vulnerability, poverty and disaster risk reduction considerations that are reflective of gender dynamics and social exclusions. The chapter concludes by looking at some key considerations for disasters and development from a Zimbabwean or developing nation perspective.

5.2 UNDERSTANDING HOUSEHOLD INFORMATION IN ZIMBABWEAN

The Zimbabwean society is clustered in three major classification of rural, peri-urban and urban societies. The structures in rural areas are different from those in urban areas. Zimbabwe's ethnicity shows that about 99.7% of

the population are of African origin and the remaining minority ethnic groups are represented by 0.3% according to ZIMSTAT (2012). All the 10 administrative provinces have an urban area. Notably, family sizes vary in both rural and urban settings. However, ZIMSTAT (2012) reported that a Zimbabwean family size stood at 4.2 and for operational reasons a figure of five is applied by humanitarian, development and public authorities. ZIMSTAT (2012) further suggest that the population density (persons per square kilometre) in Zimbabwe was considered to be 33/square kilometre. In rural areas a kinship traditional governance system applies constituting kraal head, village heads and chiefs. As a social safety net called 'Zunde Ramambo/Isiphala seNkosi' – that is loosely translated, "the chief's granary" concept is practised where food is grown and stored at the chief's place for future distribution to the poor in times of need. However, the efficacy of this concept remain questionable as respondents in this study felt that due recurrent drought such reserves have not been effective. Other respondents indicated that the concept was a good idea, but the poverty levels were so high such that resources get quickly depleted. Thus, the noble idea of mitigating poverty and vulnerability remains challenged by resource constrains, economic challenges, disasters and snail-paced development trends in Zimbabwe.

A further document review suggests over 70% of Zimbabwe's population live on less than one United States Dollar (US$1) per day and about 67% of them are in rural areas (ZIMSTAT, 2013). This suggests that the vulnerability levels are very high in Zimbabwe and the ability to fight back disasters which in some cases is called resilience tends to be on the weaker side. This affects society's exposure to disasters and development gains are eroded as communities continue to swim in the realms of poverty. In addition to the above, ZIMSTAT (2012) further highlighted that about 65% of the households in Zimbabwe are headed by males, leaving 35% to be either child-head or female-headed. Thus, ability to cope for female-head and child-headed families tends to be weak particularly in rural areas during times of disasters. In rural areas, a cluster of households constitutes a village, and a number of villages form a ward, while wards form a district (number of wards vary from district to district), and districts are administered through a province. In urban Zimbabwean settings, there are households, suburbs, wards, districts and province. The population in wards tends to be more in urban areas than in rural areas mainly because in rural areas, the households are spatially spaced compared to urban areas where plots for houses are smaller and closer to each other. During field visits in Harare, it was observed that in some residences, two to three families were staying together in places like Budiriro and Highfield because of shortage of

accommodation and economic challenges (Fieldwork, 2014). All these added together has a bearing on vulnerability which is a catalyst for disasters if combined by hazards when the capacity or resilience is weak. In sum, the heterogeneous demography for this study was drawn from the same society structure drawn from rural, peri-urban and urban areas. These respondents were also operating in an environment where the disasters and development nexus is not strengthened either due to policy incoherence, discord or weak pragmatic practices that can mitigate disaster impact and vulnerability.

5.3 DISASTER AND DEVELOPMENT NEXUS

Disasters and development are conceptually and practically correlated as revealed in this study. This confirms Stephenson's 1994 theory on the disasters and development synergies. A progressive view supported by Collins (2009), UNDP and OCHA (2012), DuFrane (2002 and 2005) who popularized the disasters and development nexus theory. The nexus of disaster and development variables if not addressed through Disaster Risk Reduction (DRR) interventions results in increased vulnerability and sluggish development when a country relies on a reactive response to disasters that erodes development efforts.

5.3.1 Community Perceptions on Disasters and Development

Generally, the views on disasters and development varied from one community to another and the same with individual diverse perceptions. However, there were areas of convergence among most of the research respondents or interviewees on both aspects of disasters and development. First, communities view disasters as causing human suffering, disruption of normal activities in society that may result in loss of lives or livelihoods. Additionally, disasters may cause injuries or trauma (psycho-social) and community coping capacity varies based on resilience or time of the day or year when the incident happens. Hence, there is an element of seasonality or impact that is weighed based on time of the day. For instance, an earthquake or flood that strikes during the night has high chances of casualties as opposed to during the day when people can easily escape with the aid of daylight. The taxonomy, typology and speed of onset are also key in understanding disasters. For example, in Buhera and Muzarabani, the interviewees indicated that drought is slow-onset and can give communities some lead time to prepare depending on severity, while heavy rainfall may result in floods within a short space of time. Likewise, epidemics like cholera which were vivid from 2008/2009 incidents could easily spread over time. It is worth mentioning that communities have a clear understanding of the naturalness or human-induced nature of disasters.

In addition to the aforementioned, communities also viewed disasters as trans-boundary and examples given included epidemics, environmental disasters, hydro-meteorological or climatic-related disasters. Similarly, conflicts were also cited as having a trans-boundary aspect and regional or global impact. One interviewee in Harare summarized the trans-boundary nature of disasters by suggesting the following views in box 5.1 below.

Box 5.1 Interviewee's Views on Disaster Conceptualization

In my view, disasters are disruptive events that can cause human suffering when they impact on individuals and their society based on vulnerability, coping capacity and resilience that is built over time. Disasters can be human-induced or natural in nature. In Zimbabwe, we are witnessing disasters that are linked to climate variability and change more frequently these years such as droughts and floods. This does not mean that Zimbabwe has been spared from environmental disasters like pollution from fossil fuels, toxic waste from industries particularly in urban areas and farming pesticides. One cannot conclude the discussion on disasters in Zimbabwe without alluding to epidemics like cholera and typhoid that have impacted the country recently in 2008, 2009 and 2014 respectively. Hence, our conceptualization of disaster should not be

narrowly viewed but a broader view is required. I also see disasters and development as having a trans-boundary trajectory. For example, we have had cholera cases having their index cases originating from Mozambique spreading to Zimbabwe and other neighbouring countries. The same for cyclone Eline induced floods in 2000 and drought in 2007 and 2008 that affected Southern Africa region. However, disasters can also impact a localized geographic area and responded to locally using local resources. In this cases, one cannot dispute that disasters can be limitedly viewed as local. Likewise, development can be bench-marked with local economic or development indicators which in some cases can also feed into macro or global indicators like Millennium Development Goals (MDGs).

Source: Fieldwork (2014)

Most importantly, the trans-boundary nature challenges the notion of viewing disasters and development as local that is guided by local trigger/indicators or certain benchmarks in the case of development. For instance, during fieldwork, Newsday (2014) reported that Harare metropolitan city had recorded 18 typhoid cases but surveillance reports from the Ministry of Health indicated that the disease had been reported in other parts of the country like Manicaland and Mashonaland. A focus group

discussion in Harare summarized disaster as “a disruptive event that causes suffering in society and has the capacity to erode development and social gains” (Fieldwork, 2014). It is worth noting that some respondents also highlighted that in some cases disasters and development were viewed at face value as antagonistic. However, further probing pointed to the correlational nature of disasters and development. Hence, addressing issues of disasters and development requires joint efforts individually and collectively including the involvement of institutions with a focus on disaster risk reduction. Collins (2009:24) is of the view that “…an improved theoretical understanding of environment, development and disaster should ultimately guide an improved engagement of both individual and institutional approaches”.

In the final analysis, it clearly shows that there are similarities between research participants’ definitional views of a disaster to that of ISDR. In short, ISDR (2009:9) precisely defined a disaster as “A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources”.

The majority of the respondents (91.8%) were able to clearly explain a hazard as a potential threat that has got the capability to incubate into a disaster if not mitigated. The key word in a hazard is *potential* as opposed to disaster which is an event that disrupts the normal functioning of society. Hazards were identified as appearing in some cases in multiple taxonomies and typologies. Hence, when combined with vulnerability, this results in a risk or disastrous event. Pragmatically, hazards can be natural or human-induced just like disasters. It is these similarities that led to the 8.2% of the study respondents to suggest that disasters and hazards are the same. On the other hand, translating the two words *hazard* and *disaster* into vernacular languages like Shona may have multiple interpretations. For instance, in Shona, *disaster* may literary mean accident or disaster itself. For these reasons, disaster and hazard can be confused though the two are different in meaning, as suggested by ISDR 2009 and IFRC (2012).

Turning to the second aspect of community conceptualization or perceptions on development and sustainable development. Responses from research respondents narratively suggested that development involves aspects of; modernization, mechanization, economic growth, good life and social infrastructure investment and change in status progressively. These views were expressed by 84% of the interviews and focus group

participants in this study. Hence, community viewed development as multifaceted and encompassing. In particular, they highlighted that for development to be sustainable there is need to eradicate poverty and mitigate progression of vulnerability. Disaster Risk Reduction (DRR), therefore, can be used to bridge the disasters and development divide underpinned on sustainability and embracing ecological modernization. However, the study found that very little attention is be given DRR investment at all levels. This is besides empirical evidence on frequent recurrence of predictable and preventable disasters like floods and drought. For instance, floods have occurred to areas like Muzarabani in 2000, 2001 and 2014 impacting on the local community without clear and firmed DRR strategies being put in place. Furthermore, environmental degradation is clearly evident in Buhera and Muzarabani, while toxic waste is an eyesore in Harare and other industrialized areas. The discharge of toxic waste in Harare's water bodies has increased pollution of potable water resulting in the use of multiple chemicals in its purification process – a practice that is not sustainable. In practice, the aspect of sustainable development are ignored within the disaster continuum when it comes to the Zimbabwean context. Therefore, the above notion justifies the argument put forward by Collins (2009:27) who postulated that "all stages of the disaster management cycle require sustainable development solutions if disaster

risk is to be reduced". This way, development and disasters will not be viewed as opposing elements but rather closely linked in that disasters can set back development gains and on the other hand, development can increase an area's exposure to disasters (Stephenson, 1994).

Combined views from one hundred and twenty-eight (81%) respondents drawn from Harare, Muzarabani and Buhera highlighted that development should also focus on human development as well as societal advancement to better life in totality. In other words, these views tally with Sen's (1999) capabilities approach to development. Additionally, in Muzarabani, views from four focus group discussions highlighted that if development does not change people's lives and the area their live positively then it is meaningless. For instance, views from five focus group discussions in Centenary-Muzarabani revealed that people from the area felt that they were not recouping development benefits from Mavhuradonha game reserve because tourist arrivals sharply declined and proceeds collected from those that visit the game reserve or use its camp site have not been ploughed back into the community. Consequently, the impact of development in area hangs in the air until progressive change is noticeable in people's lives, their social infrastructure and establishment of factories

that can see beneficiation of their agricultural products like cotton and other produce.

In sum, the issues of disasters and development have been of concern in Zimbabwe over many years as they both impact on lives and livelihoods, social network and infrastructure. Notably, when it rains heavily people are at risk of flooding but at the same time if there is insufficient rain there is another risk of drought. Development has been on the agenda in both colonial and post-independent Zimbabwe. However, such development has also contributed to disasters through environmental degradation in areas of mining mainly along the Great Dyke and extraction of the earth for construction of high-rise buildings in cities like Harare. Likewise, construction in major district centres in Buhera's Murambinda and Birchenough "Growth Points' and the same for Centenary-Muzarabani. Thermal power generation in Harare, Bulawayo and Hwange created jobs and increased power generation. However, this has also contributed negatively to air pollution – a key risk in toxicity, acidification, eutrophication and global warming (UNEP, 2010).

5.3.2 Disaster and Hazard Trend Analysis

Zimbabwe, as a nation, has had her fair share of disasters for decades that varied in typology, taxonomy, frequency and intensity. On the human-induced disasters, examples can be drawn to the first Chimurenga war 'revolutionary struggle' in 1896 – 1897, followed by the second Chimurenga war in 1966 – 1979 (Martin, 1981; Chung, 2006). Further, from 1981 – 1987, Zimbabwe also experienced civil strife confined mainly in Matebeleland and Midlands areas. Centre for Research on the Epidemiology of Disasters (CRED) reported that Zimbabwe was affected by a major storm in 1975 and a drought in 1982 (CRED, 2016). All these and other prior or subsequent disaster events had a major impact on development economically. Hence, disasters can potentially impede development.

In the same vein, a review of documented evidence on disasters in Zimbabwe in terms of frequency, major trends, impact (mortality, socio-economic, development, environment and other factors) revealed that drought, floods and epidemics frequently occur and intensely impact on the vulnerable Zimbabweans (see Table 5:4 and Figure 22). Hence, on the natural hazard-induced disasters the above mentioned disasters top the list in Zimbabwe according to CRED database for the period 1991 – 2013, a timeframe spanning over two decades. However, this does not mean that

Zimbabwe is immune to other disasters at varying levels of susceptibility. The study found out that Zimbabwe is exposed to multiple hazards with potential to incubate into disasters; these include toxic or chemical waste, human or material waste, environmental pollution, environmental degradation, veld fires and animal diseases. In addition to the afore-mentioned, ZIM Asset (2013) principally confirms environmental degradation, structural bottlenecks and absence of robust governance policy as part of a host of challenges Zimbabwe has been facing during the period 2000 – 2013, spilling over to the time of the fieldwork for this study. The seasonality of hazards from the three study areas is summarized in tables 5:1 to 5:3 below.

The seasonality of hazards or disasters and time of the year when they normally occur in an area are reflected in tables 5:1, 5:2 and 5:3 for Buhera, Centenary-Muzarabani and Harare, respectively. An analysis of the disaster trends reveals that the disasters impacting Zimbabwe are predictable and to some extent, preventable if surveillance systems for epidemics and early warning indicators for other disasters are monitored. It is worth mentioning that the disaster risk reduction conceptual framework puts emphasis on vulnerability and capacity analysis, hazard monitoring, early warning systems, political commitment and ensuring that the policy or legislative

framework is put to practice (ISDR, 2004). Hence, Zimbabwe needs to examine itself at both institutional and community levels on how prepared it is to manage frequent and predicable disasters by tapering its focus on community-led disaster risk reduction activities.

Table 5.1: Seasonal Hazard Calendar for Buhera

Disasters/Hazards	Time of the year (January – December) when the impact is felt most or occurs											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Floods												
Drought												
Cholera												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												
Pest infestation												
Locust infestation												
Malaria (endemic)												

Source: Fieldwork (2014)

The hazard seasonality timeline in tables 5:1, 5:2 and 5:3 reflect the community perspective of how they analyse the normal trends within Buhera, Centenary-Muzarabani and Harare, respectively. Additionally, the tabular representations in these critical events hazard/disaster calendars

are based on a cumulative analysis of incidents at the peak periods. In addition to the above views, the research findings also point to isolated and sporadic cases being recorded during other times of the year which do not ring any alarm bells to the community or cause concern that may require external support.

During the winter period, malaria cases were reported to be on a downward scaled as water ponds dry or conditions are not favourable for mosquito breeding. It is worth mentioning that the Ministry of Health continues to conduct entomological studies and disease surveillances to inform its planning and preparedness.

Table 5.2: Seasonal Hazard Calendar for Centenary-Muzarabani

Disasters/Hazards	Time of the year (January – December) when the impact is felt most or occurs											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Floods												
Drought												
Cholera												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												
Pest infestation												
Locust infestation												
Malaria (endemic)												

Source: Fieldwork (2014)

Muzarabani is endemic to malaria due to its climatic conditions and topography that facilitate mosquito breeding. In particular, the female mosquitoes take blood meals to carry out egg production, and such blood meals are the link between the human and the mosquito hosts in the parasite life cycle as suggested by Centre for Disease Control and Prevention (CDC) in their 2015 report.

Communities in Buhera and Muzarabani mentioned that during drought years, they normally get low yields which they call 'Masunda Chando' – referring to food that can only take them through winter season. However, some droughts were highlighted as more severe than others, especially when they impact the whole country. Examples, included the 1991/1992, 2007/2008 and 2015/2016 droughts which communities attributed to an El Niño phenomenon linked to climate change and climate variability. In this regard, climate change adaptation strategies become essential to reduce poverty, vulnerability and wiping away of socio-economic/development gains in Zimbabwe.

Table 5.3: Seasonal Hazard Calendar for Harare

Disasters/Hazards	**Time of the year January – December) when the impact is felt most or occurs**											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Floods												
Cholera												
Typhoid												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												

Source: Fieldwork (2014)

The tabular seasonal timeline for epidemics in Harare were based on an analysis of the findings which had happened in the city in recent years like 2008/2009 cholera and 2014 typhoid (WHO, MoPH and Newsday, 2014). Further, as illustrated in table 5.3 supported by views from focus group discussion in Harare, the study found out that poor waste and solid waste management, rampant sewage bursts and poor water service delivery within the city were cited as major root causes of oral-faecal diseases in Harare. Likewise, increased population density, poor health and hygiene practices, failure to provide basic services (water and sanitation), failure to enforce environmental protection laws and regulations, irregular refuse collection, toxic waste into water bodies and sprouting of informal settlements emerged as key contributing factors to epidemics of concern in Harare. Carbon emissions and pollutants from the heavy industries were also cited as major environmental concerns. In Harare, the issues of environmental degradation reflected in table 5:3 were attributed to rampant cutting down of trees for energy sources due to the erratic nature of electricity supply and high cost of renewable energy sources like solar products. Extraction of pit and river sand were also voiced as a concern for environmental degradation. Malaria is not endemic in Harare, but there are cases reported from travellers who come or have visited malaria-prone areas like Muzarabani, Gokwe, Lowveld and other places within Zimbabwe

or abroad. All these, disasters impact on the vulnerable and erode development gains. Through investment in disaster risk reduction, most of these hazards can be mitigated before they crystalize into disasters. This can be achieved if the community coping capacity and resilience is high to the identified frequently or potential hazards and risks. The study also noted that Harare, as an urban settlement, is not prone to drought but susceptible to urban poverty. Additionally, most urban dwellers also suffer the impact of drought, as they are expected to mobilize food for their rural or extended families in other areas.

Historically, Zimbabwe from generation to generation have passed on survival and coping skills for both natural and human-induced disasters. This is exemplified by the old tradition of growing small grains in drought prone areas. In the case of epidemics, the study found out that in the past communities used to have traditional way of dealing with infectious diseases by isolating the person through the “Musasa concept” – (similar to barrier nursing or quarantining). However, some of these practices are slowly fading away as communities transform into modernity.

On the contrary, the shift from tradition and embracing modernity as part of the development realm can affect food production and consumption

patterns. For example, traditionally, Zimbabwean communities used to grow and base their staple food on small grains like sorghum (mapfunde), rapoko (finger millet) or rukweza and pearl millet (mhunga) that are drought tolerant. The consequences of such moves were felt during times of drought in 1992, 2002 and 2008. Hence, the so-called modernity or development on the other hand may contribute to disaster impacts like drought, increase malnutrition and hinder poverty reduction efforts. In this case, one therefore cannot divorce disasters from the development agenda, if sustainable development is to be achieved and resilience reinforced on the 'risk society'.

At the time of the study, Zimbabwe's risk index was ranked at a score of 5.1, which is relatively very high according to Index for Risk Management (2015) also known as INFORM. Compared to her neighbouring countries, this puts Zimbabwe on the second position after Mozambique in terms of risk levels. Put to context, INFORM has three dimensions: hazard and exposure, vulnerability and lack of coping capacity. Hazards and exposure focuses on range of natural and human induced hazards, the vulnerability pillar looks at socio-economic factors and vulnerable groups, while the coping capacity dimension analyses institutional and infrastructural capacity (see figure 22). In view of this, Zimbabwe, therefore, requires putting in

place disaster mitigation strategies that include effective emergency response preparedness and early warning systems practically.

Figure 22: Index for Risk Management (INFORM) concept

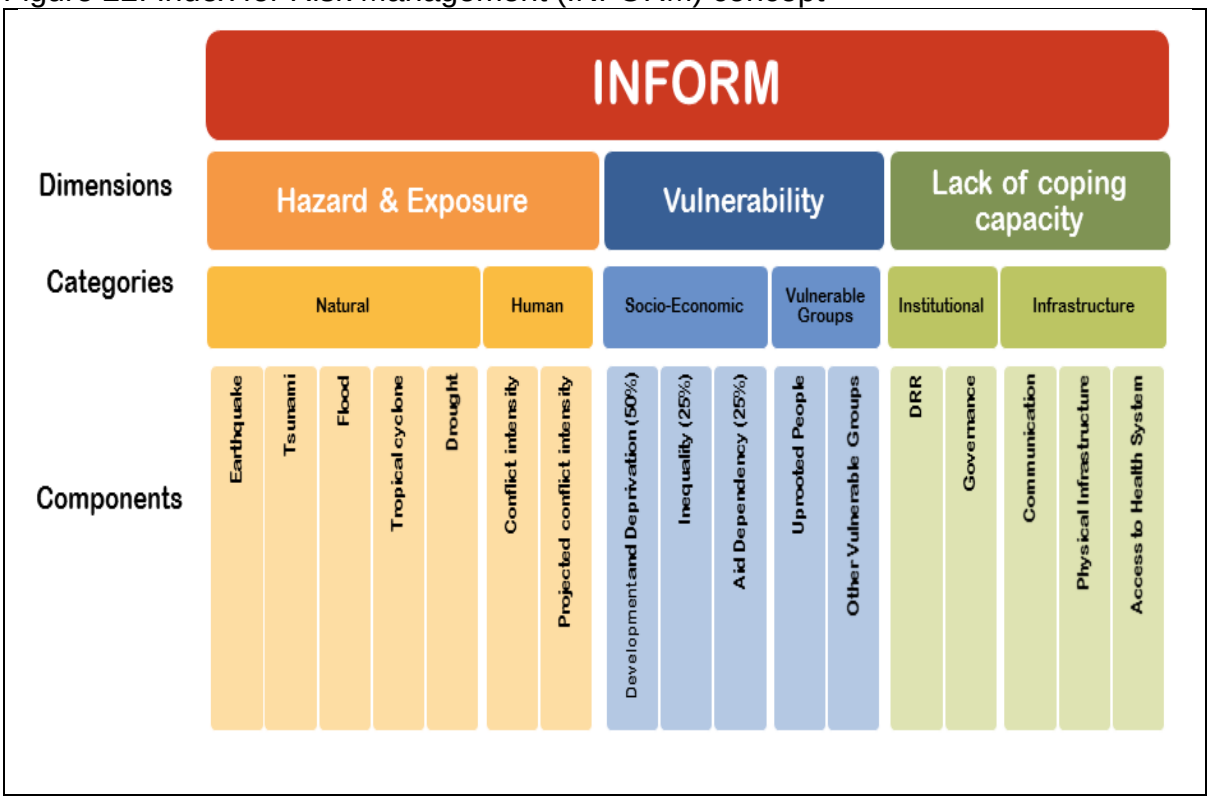


Figure 22: Index for Risk Management (INFORM) concept

Source: INFORM 2015 http://www.inform-index.org/InDepth/Methodology

Figure 23: Zimbabwe Risk Index

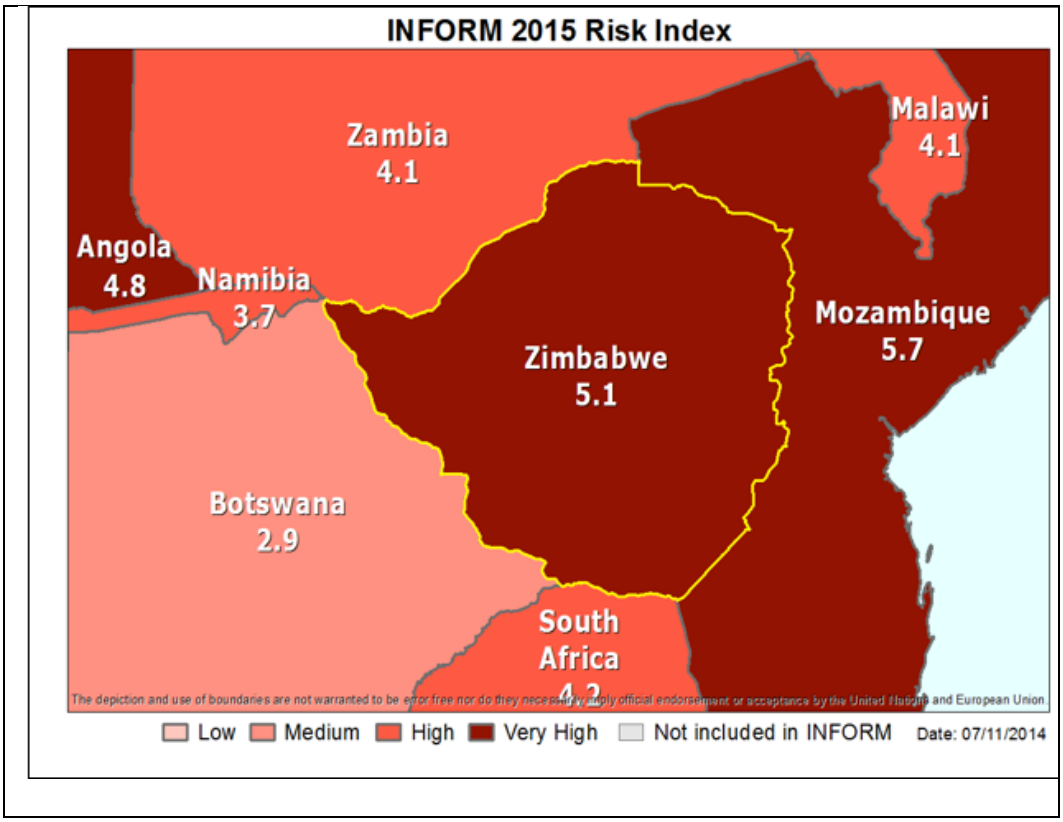


Figure 23: Zimbabwe Risk Index

Source: Index for Risk Management (INFORM) 2015 http://www.inform-index.org/

In particular, ISDR (2009) expresses risk as = hazard X vulnerability and in some cases as Hazard X Exposure X vulnerability. The realization of the risk is the disaster impact on a community with low coping capacity. Accommodating contemporary insights from INFORM methodology, where

the vulnerability variable is split among three dimensions, the equation is updated to:

Risk = Hazard and Exposure $^{1/3}$ × Vulnerability $^{1/3}$ × Lack of coping capacity $^{1/3}$

INFORM (2015) postulated that it is a multiplicative equation. The risk equals zero if one of the three dimensions above is zero. Theoretically, in case of tropical cyclones there is no risk if there is no likelihood of a tropical cyclone to occur or/and the hazard zone is not populated or/and if the population is not vulnerable (all people have high level of education and live in high level of health and livelihood condition as well as they can afford houses built to a high level of wind security) or/and if the resilience of the country to cope and recover is ideal. In the case of Zimbabwe, the scenario is different resulting its high risk ranking of 5.1 because a mismatch of theory and practices exposes the country to high levels of vulnerability and limited capacity to cope with hazards that manifest in society. In this regard, Zimbabwe's levels of exposure and vulnerability are very high and should be of concern to both development and disaster management practitioners.

Practically, when disasters happen in Zimbabwe, they impact on a number of spheres of life that include, but not limited to, health, education, socio-

economic, human, physical and social infrastructure, communication and its infrastructure, environment, ecosystems and ecological health as well as development. The study findings revealed that the poor and most vulnerable are most affected by disasters because of their weak coping capacity. However, in the case of the 2008/2009 cholera, all social groups and their demography were affected across the country. In addition, the finding also indicated that people with limited knowledge of the disaster, its effects and how to respond to it are at high risk as compared to those with knowledge or skills of responding to the disaster. This is a clear indication that investing in disaster preparedness for response and mitigation pays dividends when disaster strikes.

5.3.3 Disaster Trends and Their Impact in Zimbabwe

This section discusses the disaster trends and their impact in Zimbabwe. Each time when a disaster impacts on people, vulnerability tends to increase and resilience weakens. Hence, society's ability to cope with disaster shock also gets low. Table 5.4 provides a snapshot of the top ten natural disasters that frequently occurred and impacted on Zimbabwe causing humanitarian and economic consequences.

Table 5.4: Top Ten Natural Disasters in Zimbabwe 1991 – 2013

Disaster Typology	Year of Occurrence	Total Population Affected
Drought	1991	5,000,000
Epidemic	1996	500,000
Drought	1998	55,000
Floods (Cyclone Eline)	2000	266,000
Drought	2001	6,000,000
Floods	2001	30,000
Drought	2007/2008	2,100,000
Epidemic (cholera)	2008	98,349
Drought	2010	1,667,618
Drought	2013	2,200,000

Source: EM-DAT – The OFDA/CRED International Disaster Database http://www.emdat.be/country_profile/index.html

A graphic trend analysis of disaster frequency from 1991 to 2013 shows that drought has occurred more frequently during this period. It worth mentioning that droughts are predictable in nature and measures can be put in place to mitigate their impact, for example, growing of drought tolerant crops, water harvesting and irrigation.

Figure 24: Analysis of Top Ten Disaster Frequency of Occurrence (1991 – 2013)

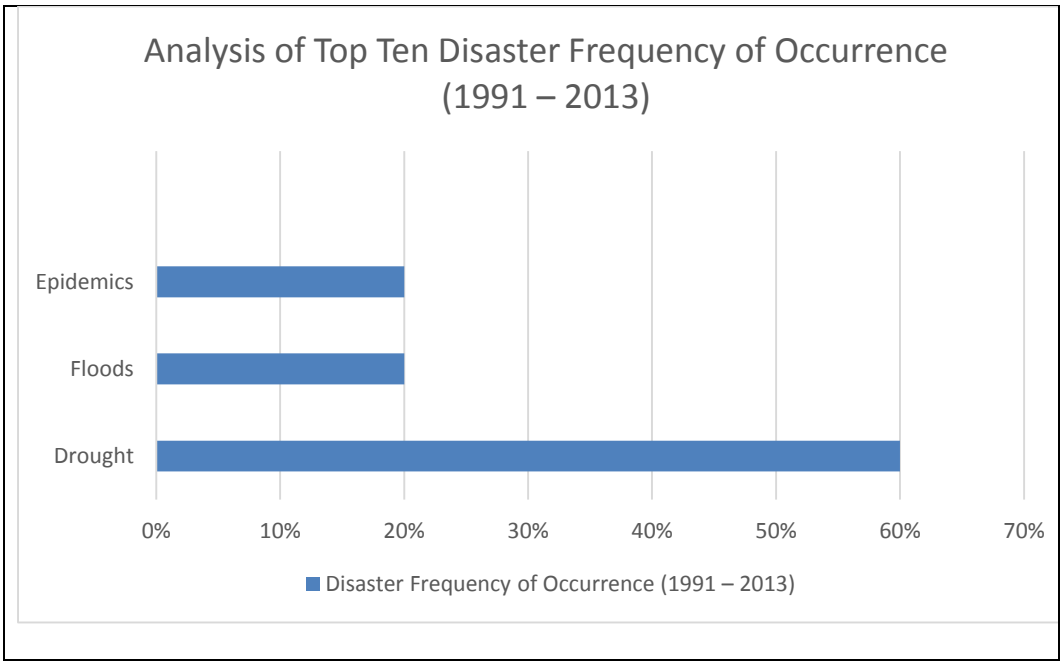


Figure 24: Analysis of Top Ten Disaster Frequency of Occurrence (1991 – 2013)

Source: EM-DAT – The OFDA/CRED International Disaster Database http://www.emdat.be/country_profile/index.html

A further analysis of patterns in figure 25 below shows rainfall patterns deviating from the mean more intensely in the periods 1970 and more in the 1990 and 2000s. This has led to frequent droughts in Zimbabwe that resulted in increased dependency on food aid and diverting national

resources meant for development to food imports. For instance, the period 1991 – 2013 registered a 60% frequency (see figure 24). All this put together, points to the effects of globally warming, where climate variability has resulted in increased poverty and vulnerability on top of disaster impact and its consequences to development.

Figure 25: National Rainfall Deviation – Ten Years running mean

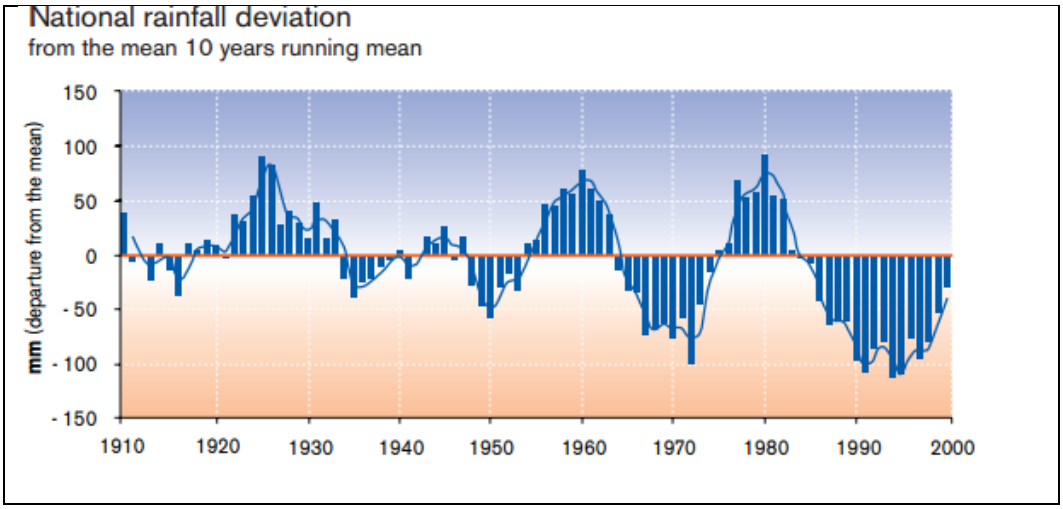


Figure 25. National Rainfall Deviation in Zimbabwe

Source: Zimbabwe Department of Meteorological Service http://weather.utande.co.zw/climate/climatechange.htm

Evidence illustrated in table 5:4, figures 24 and 25 tallies well with hazard seasonality tabular information in tables 5.1, 5.2 and 5.3. For instance, in Table 5.1, Buhera drought topped the list on frequently occurring disasters.

Likewise, epidemics like cholera were highlight and less on floods because the area receives low rainfall because of its agro-ecological zones location. Other disasters cited in Buhera shown in table 5.1 and highlighted during interviews include: toxic waste from mines and poor waste management, environmental degradation leading to river-bed siltation of major rivers like Save, Nyazvidzi and Mwerahari. Army-worms and locusts were cited as rarely impacting Buhera, but when they occur, they lead to loss of crops and vegetables. Limitedly, animal diseases, veld fires and storms were mentioned in Buhera, though the area is endemic to Malaria.

Tabular information in table 5.2 and views expressed in lower Muzarabani, show that floods are a major concern though they are highly predictable and recurrent in nature. In addition, drought could be cited vividly to the 2007/2008 season. In this sense, the study findings tally with empirically documented evidence reflected in table 5:4 on major disasters that have impacted Zimbabwe significantly (CRED, 2016). The implication of this is that besides floods being predictable and recurrent in Muzarabani, there was little evidence of investing in low-cost disaster risk reduction and early warning systems that could save the community and mitigate the flood disaster risk. For instance, community flood hazard mapping and use of coded flood alert early warning in different colours. Epidemics were also

highlighted in Centenary-Muzarabani as one of the major transboundary disaster that had affected the area and claimed lives. During the field visit, veld fires were evident in resettlement areas located in the upper Centenary areas. These were mainly caused by hunting of small animals and carelessness. There was clear lack of veld fire management as enshrined in the Environmental Management Act (EMA).

A review of research findings from Harare in Table 5.3, focus group discussions and interviews pointed to epidemics being ranked high as a major concern that has been impacting the city with intensity particularly in densely populated areas like Budiriro, Glen View, Kuwadzana, Mufakose, Mbare, Chitungwiza, Mabvuku, Tafara, Epworth and other high density suburbs. Vividly, interviewees, focus group participants and respondents could rekindle the traumatic memories of cholera outbreak in 2008 and the July 2014 typhoid outbreak. Subsequently, those who can afford have resorted to buying bottled water or drilling boreholes. However, due to urban poverty and vulnerability people in these densely populated areas remain at risk. This necessitated the study to examine why some households had resorted to alternative water supply of installing filters on the city of Harare water supplies. Findings, from one household in Harare (see figure 16) revealed that water supply had some sediments maybe due to old pipes of

pollution levels from the tanks or the source due to increased pollution of water bodies through sewage discharges or other pollutants. Hence, the local authorities and central government should improve on quality of water supply to mitigate on diarrheal and cancerous diseases that can affect urban residents. A more serious rather than a rhetoric approach is required in translating policy, plans and drawings for Kunzvi dam project into practical reality. This Kunzvi dam project should be supported by political will and adequate resources as an alternative source for clean water for Harare and its neighbouring cities. On the other hand, sewage pipes in high density areas burst frequently because they can no longer contain the pressure on the increased number of users. In this regard, alternative accommodation that is affordable should be developed to easy pressure on existing resources. Similarly, there was clear evidence of multiple burst water supply pipes. A notion which residents and technical experts attributed to aged pipes that require replacement as some of them have suffered from corrosion or thrombosis.

Harare being an industrialized city, toxic waste, environmental pollution, environmental degradation and poor waste (human and material waste management) were cited as a concern. In particular, end-of-cycle waste management and limited investment in recycling culture were cited as

contributing to some environmental health disasters that affected Harare. What is worrying from the findings is the pollution of wetlands that provide water sources for Harare, Ruwa, Chitungwiza and Norton residents. Likewise, the volume of vehicles has increased in Harare. The same applies with industries and fuel powered generators that mainly use fossil fuels that emit carbon dioxide and other pollutants into the air. These fossil fuels and other pollutants contribute to climate change related disasters. In this sense, pollution level management should be encouraged and enforced in line with EMA, environmental and public health legislative framework.

In addition, pollution reduction and climate change adaptation should be benchmarked on global agreement which Zimbabwe herself is signatory. These include: the Rio Earth Summit of 1992, which set out a framework for action aimed at stabilising atmospheric concentrations of greenhouse gases (GHGs) to avoid ‘dangerous anthropogenic interference with the climate system’ (UNFCCC, 2015). Noting the alarming trend of climate change, variability and increased vulnerability, the UNFCCC Paris Declaration was signed in December 2015 as a way of protecting vulnerable people, particularly in developing and emerging economies like Zimbabwe.

Put to context, it shows that the research findings on disasters frequently affecting Buhera, Centenary-Muzarabani, Harare and Zimbabwe at large are actually in tandem with documented disaster information from CRED and PreventionWeb. One therefore, wonders why mitigation measures are not being put in place to reduce these recurrent and predictable disasters that result in increased vulnerability, mortality and socio-economic losses. Further, one can ask why policies like EMA, Civil Protection, Public Health, environmental policies, industrial waste management, Zim Asset and Sustainable Development Goals (SDG) are not being enforced. Likewise, inspections by National Social Security Authority (NSAA) should not remain rhetoric and but ensure that environmental safety should go beyond the industrial workplace. Likewise, the silo approach of enforcing these policies should be avoided if a holistic disaster risk reduction is to cascaded to all levels of society and become an integral part of society in practice. Revealingly, Zimbabwe Government's Zim Asset (2013:23) acknowledges and challenges the existence of 'silo mentality' by suggesting that: "The clusters are called upon to eliminate compartmentalization and the silo mentality by creating strong synergistic relationships that fully exploit the benefits of both horizontal and vertical linkages as a way of institutionalising harmonized approaches to Government programming". If this is put to practice and applied in the same way in disaster and development linkages

through DRR, then vulnerability progression will be curtailed in Zimbabwe. Similarly, poverty will be reduced and capabilities enhanced.

Furthermore, two focus group discussions in Harare revealed that end of cycle waste management remains poorly managed. The implications of this is that waste ends up blocking drainages leading to floods and decomposing waste become a breeding place for bacteria that result in increased oral-faecal diseases. A clean environment equates to a healthy nation. Hence, Zimbabwe should see herself invest in environmental and public health management that results in a healthy ecology and healthy nation that can productively contribute to the development of the country.

5.3.4 Disaster and Development Nexus Analysis

This section discusses in-depth the disasters and development synergies based on field data and documented evidence that was reviewed. PreventionWeb (2016) ranks floods at 85.3% followed by drought 14.4% and other disasters sharing the remaining 0.3%, as major disasters impacting on development and economic growth in Zimbabwe. Thus, this may point to the correlation that exists between disasters and development as espoused by Stephenson (1994). Hence, this justifies the notion put forward in this study that there is a nexus on disasters and development

both theoretically and practically. What this means is that disasters and mitigating them have to be considered in development planning if the sustainable development goals (SDG) are to be achieved.

Figure 26: Economic Impact of Disasters in Zimbabwe

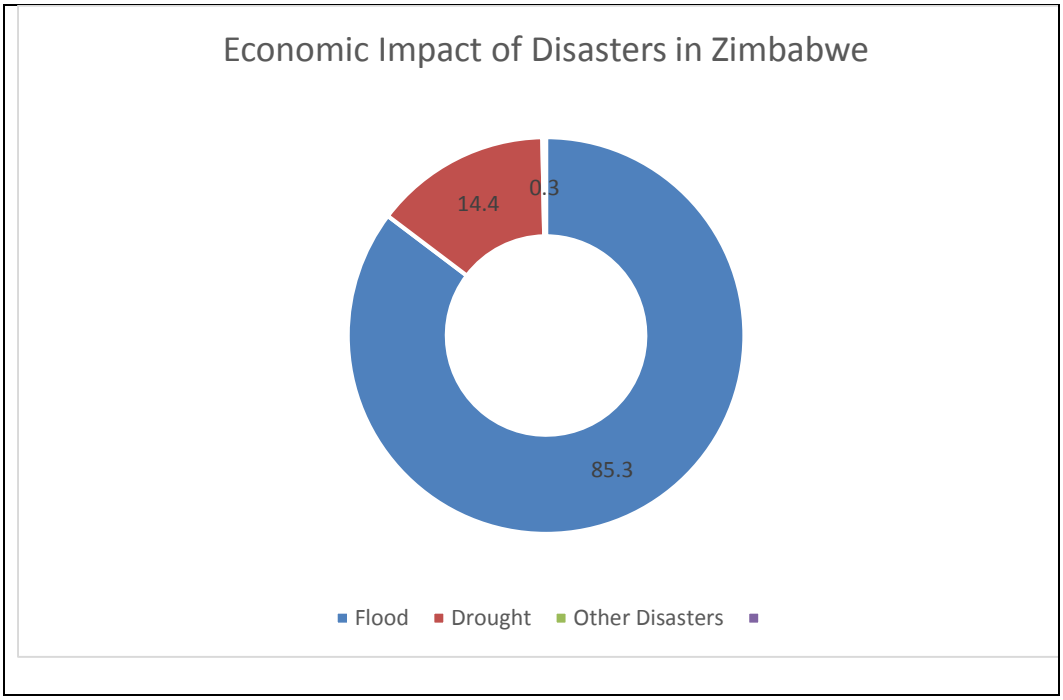


Figure 26: Economic Impact of Disasters in Zimbabwe

Source: PreventionWeb (2016) available on:

http://www.preventionweb.net/countries/zwe/data/

It is worth mentioning that when floods occur, they wash away crops or fields or livestock, pollute water sources, destroy social infrastructure like schools, clinics, individual/public buildings and communication

infrastructure. Pollution of water sources leads to the risk of oral-faecal diseases like cholera, diarrhoea and typhoid. Individuals and communities are also at risk of losing lives and livelihoods. This is in addition to social links being cut off as a result of flooding. The environment suffers as a result of floods and also gets polluted. In other words, floods trigger other multiple disasters that can have secondary consequences if not mitigated. Hence, this is why floods in the case of Zimbabwe are ranked high in terms of economic impact the development and economic discourse. Arguably, PreventionWeb (2016) suggests that in Zimbabwe, floods cause 97.3% of the mortality that is attributed to major disasters in Zimbabwe.

Evidence gathered, as reflected in figure 26, showed that when disasters occur in Zimbabwe they impact on development (see figure 26). This is exemplified by negative community and household coping strategies that include school drop-outs, brain drain of the human capital into the diaspora and reduction in investments in social and physical infrastructure. All these aspects added together entrench people into poverty, break the social bonds/fibre and increase stress in community. Views from focus group discussions in Harare, Buhera and Centenary-Muzarabani highlighted that during disaster periods like drought, floods or epidemics, human development has been retarded. One respondent from Buhera highlighted

that “when disasters occur focus is on survival, children drop off from school, there are early marriages, development projects are stalled as well as human development” (Fieldwork, 2014).

Likewise, national development programmes were cited during interviews as having experienced a downward trend during disaster times. This is supported by documented literature drawn from table 5:1 CRED (2016) and figure 27 Trading Economics (2014) cited in this study. Further, in this study, examples of development programmes affected by disasters in Zimbabwe included: National Economic Priority Development Programme (NEDPP) and Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim Asset). Pragmatic articulation policies are stalled and resources are diverted to fund disaster response. Arguably, human development retardation increases vulnerability and reverses the gains made towards poverty reduction/good life and disaster mitigation. The fall of the economy and social infrastructure, coupled with political challenges around 2007/2008, not only saw the exodus of human capital but weakened Zimbabwe’s capacity to respond to predictable and preventable diseases like cholera and typhoid. This was worsened by a major drought in 2007/2008 (see table 5:4 and figure 27). In this regard, this points to strong disasters and development correlation both theoretically and practically.

Hence, their relationship is not just a symbiotic one, but one which requires bridging with strong disaster mitigation and sustainable development strategies.

Figure 27: Zimbabwe GDP Annual Growth Rate

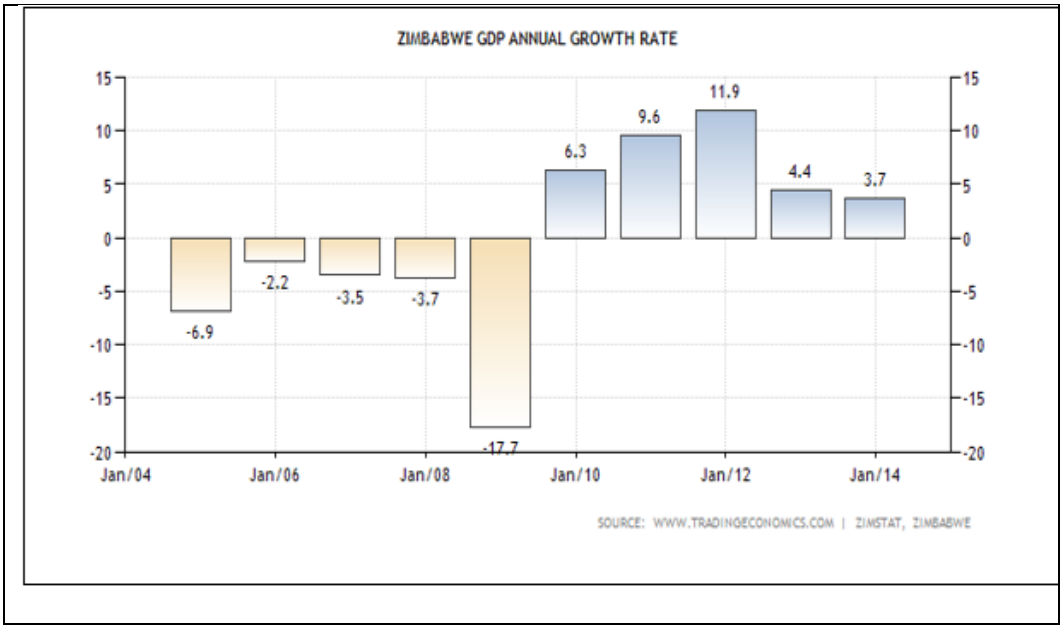


Figure 27: Zimbabwe GDP Annual Growth Rate

Source: Trading Economics: Hope for African Children, available on: http://www.tradingeconomics.com/charts/zimbabwe-gdp-growth-annual.png?s=zimabwegdpate [Accessed 25 October 2014].

5.3.5 Does Disaster Erode Development Gains?

In this section, the discourse examines whether disasters erode development gains. Interestingly, combined views from the three study areas (Buhera, Centenary-Muzarabani and Harare) reflected in table 5:5 shows that 96.3% of the interviews and respondents agreed that disasters erode development gains and cause suffering on the most vulnerable. Additionally, 2.3% moderately agreed to the above notion while the remaining 1.4% disagreed (see table 5:5). Notably, explanations from the 1.4% responses in table 5:5 were ambivalent on the disaster and development correlation. The majority affirmative correlational rated responses (98.6%) therefore illustrate how disasters and development are linked positively and negatively. With this in mind, it is critical for development planners to integrate disaster mitigation strategies in development planning to enhance sustainability.

Table 5.5: Perceptions on Disasters, Development and Vulnerability

N = 158		**Area**			
Extent of agreeing or disagreeing		**Buhera**	**Centenary-Muzarabani**	**Harare**	**Total**
	Disagree			4.2%	1.4%
	Moderately Agree	2.8%		4.2%	2.3%
	Agree	97.2%	100%	91.6%	96.3%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

The study further revealed that when disasters strike, in most cases, all aspects of life are affected, people lose their assets. Orphans and Vulnerable Children (OVC) increase, livelihoods are affected and in some cases life is lost or injuries caused. There is also trauma and psycho-social impact on the community when disaster befalls them. Furthermore, recovery from disaster shocks takes long for the most vulnerable hence poverty and destitution is increased. Other research participants and interviewees were of the view that disasters result in disruption of services, contribute to reduction to the national GDP and entrenching the poor into the disaster and poverty cycle when social safety nets are lost. On the other hand, those who disagreed (1.4%) are of the view that disasters can bring in a new lease of life with some people receiving more than what they had before. Examples, were given in relation to the new water supply pipes that were put in major cities following 2008/2009 cholera outbreak, drilling of boreholes, improved waste management and enforcement of food, fruit and vegetable handling policies or by-laws. Similar examples included the ‘Operation Garikai/Hlalani Kuhle’ – a housing project for the poor implemented post the 2005 'Operation Murambatsvina' that had rendered people homeless. Hence, one cannot divorce disasters in a development discourse.

Table 5:6 further reveals that 98.8% of respondents are of the view that disasters erode development gains in Zimbabwe, while 1.2% were not so sure on their standing.

Table 5.6: Views on Disasters Eroding Development Gains.

N = 158		**Area**			
Views on disasters eroding development gains		**Buhera**	**Muzarabani**	**Harare**	**Total**
	Yes	96.4%	100%	100%	98.8%
	I don't know	3.6%			1.2%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Based on the study findings in table 5:6, the majority of study respondents (98.8%) are of the strong view that disasters erode development gains. In this regard, investing in disaster risk reduction is paramount so as to mitigate the impact of disasters on development which will subsequently have an impact on vulnerability and increase levels of poverty in a country like Zimbabwe.

In unpacking views on why disasters are viewed negatively if development gains are congealed/firm within disasters, responses in this study

suggested that people have vivid memories of the negative effects or consequences of the disasters as they tend to outweigh the positives that come after the aftermath of a disaster. Notably, congealed development gains within disasters come during the recovery or reconstruction or development continuums in disaster management. Hence, some people might not see the direct relationship of the disaster with development. Responses in this study further suggest that development gains congealed within disasters include: acceleration of policies, mechanization of production, crop diversification in the case of drought, promotion of drought tolerant crops, implementation of early-warning systems and enforcement of public health, environmental health and environmental policies. In the case of cholera, increased health and hygiene practices were cited as some of the positive development gains coupled with repair in water and sanitation systems. In sum, the congealed development gains in disasters are ignored or literally forgotten as people tend to drawn their attention to the immediate impact of the disaster to their society. This was asserted by one respondent who suggested the following reflections (see box 5.2).

Box 5.2 Respondent's views on Development Gains Congealed within Disasters

The perceptions of poverty are synonymous with the pictures that disaster struck communities are shaped. Hence, people imagine that it is difficult to come out from the murky situation once their development efforts have been eroded. Therefore, the congealed development gains in disasters particularly in Zimbabwe are ignored or literally forgotten as people tend to drawn their attention to the immediate disaster impact and its traumatic consequences on their society.

Source: Fieldwork (2014)

Table 5.7: Disaster and Development Linkages

N = 158		**Area**			
Disasters and development are strongly linked or correlated, though disasters have negative impact in some cases.		**Buhera**	**Muzarabani**	**Harare**	**Total**
	Disagree	2.7%	13.6%	4.4%	6.9%
	Moderate Agree	13.5%	4.6%	13.0%	10.4%
	Agree	83.8%	81.8%	82.6%	82.7%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Table 5:7 reveals the analysed responses on the notion that disasters and development are strongly linked or correlated, though disasters have negative impact on the vulnerable community in some cases. Responses from table 5:7 clearly show that the majority of the respondents are of the view that there is a strong relationship between disasters and development. This is represented by 82.7% of those agreeing, 10.4% moderately

agreeing and the remaining 6.9% disagreed with this notion. A combined view of 93.1% agreed to the correlational nature of disaster and development in Zimbabwe and in general. Most striking responses suggested that the nexus between disaster and development is either negative or positive. A perspective that dove-tails with the scholarship of Stephenson (1994) which postulated the affirmative and negative relationship that manifest in disasters and development discourse.

An interviewee from Harare highlighted that “the disaster and development relationship can also be traced to the development choices or plans that are made without due regard to hazard, risks, vulnerability and capability analysis leading to disasters” (Fieldwork, 2014). Further, development projects themselves can create new hazards or accelerate existing hazards. For instance, development projects like mining and dam construction can alter the environment leading to environmental degradation or pollution through fossil fuels and flash flooding respectively. Another example of the disaster and development linkages from responses highlighted that development programmes like industrialization or handling of hazardous substances may present itself with new pollution and toxic waste related disasters. Hence, through the responses of this study, it is justified to reaffirm this study’s hypothesis that argues that: disasters and development

are correlated, as disasters can both destroy development initiatives and create development opportunities, and that development schemes can both increase and decrease vulnerability. This study further proposes that development gains and opportunities are congealed within disasters. In principle, this also reiterates Stephenson's 1994 hypothesis on disasters and development connexion.

Evidence gathered through this study clearly shows that Zimbabwe, as an emerging economy, exhibits incremental development traits which have seen technological advancement, social and physical infrastructure development. In addition, her (Zimbabwe) human develop is worth noting, with UNDP (2013) reporting achievement of the highest literacy rate in Africa of over ninety percent, though it performed badly on other social indicators like unemployment at 95% and HIV/AIDS prevalence rate of 16.74% respectively (ZIMSTAT, 2014). On the other hand, Zimbabwe is exposed to multiple hazards and a number of disasters that have impacted on her. Therefore, Zimbabwean communities' exposure to vulnerability requires investing in disaster risk reduction that allows for disasters and development linkages through resilience building and enhancing sustainable development. Collins (2009) suggests that if interpretational nuances of disasters and development are to be found within ourselves,

they need to be influenced by aspirations and roles in securing wellbeing now and for future generations.

5.3.6 Disasters and Development Linkages and Impact of Disasters on Development

The discussion in this section continues to explore the disasters and development linkages and analyses the impact of disasters on development.

Table 5.8: Impact of Disasters on Development

N = 158		**Area**			**Total**
Rating for disasters impact on development		**Buhera**	**Muzarabani**	**Harare**	
	Low	10.8%	31.8%		14.2%
	Moderately severe	29.7%	36.4%	24.0%	30.0%
	Severe	59.5%	31.8%	76.0%	55.8%
Total		**100%**	**100%**	**100%**	**100%**

Sources: Fieldwork (2014)

Collective responses reflected in table 5.8 show that the impact of disasters on development varied from low (14.2%), moderately severe (30%) and severe (55.8%), respectively. What is most striking is the impact of disasters in urban settlements like Harare that has been viewed to be ranging from moderately severe (24%) to a severe rating (76%). This might be attributed to the nature of disasters, the geographical spread and intensity as well as the number of people affected and the trans-boundary nature of disaster. Examples, of disasters that had huge impact on Harare include epidemics

like cholera and typhoid, environmental pollution and environmental degradation. In the case of cholera, responses suggested that the 2007 outbreak was the worst in the epidemiological history for Zimbabwe. Hence, this was why responses from Harare ratings fall within the moderately and severe category.

In addition to the afore-mentioned, responses to the impact of disasters on development also highlighted that when disasters occur resources meant for development are diverted towards humanitarian response. On the other hand, some responses were of the view that poor service provision and discord in the governance system also contributed to the impact of disaster. The issue of failure to pragmatically implement policies was pronounced clearly as contributing to the impact of disasters on development programmes in Zimbabwe. ISDR (2004) asserts that in conceptual DRR framework, there should be a strong emphasis on strong governance and legislative framework if holistic management of the disaster and development continuum is to be achieved. However, the study reveals that Zimbabweans have good craft literacy that has seen the development of very good policies like EMA, Public Health, National Economic Priority Development Programme (NEDPP) and Zim Asset. What has been lacking, as suggested by study respondents, is the craft-competency that sees translation of policies into practice.

Analyzing the growing body of disaster literature and evidence from responses of this study, it can be concluded that disasters cause sombre disruptions on the normal functioning of a community or society affecting development gains. Proponents like Wisner et al. (2004:5) summarized the impact of disasters on development by arguing that: “Disasters are a brake

on economic and human development at household level (when livestock, crops, homes and tools are repeatedly destroyed) and at national level when roads, bridges, hospitals, schools and other facilities are damaged". Thus, disasters and development are intertwined. Hence, their marriage needs to be understood so that the disaster consequences are mitigated.

The general assumption in the disasters and development nexus is that if linkages and areas of divergences are identified, one is able to delineate the parameters for disasters and development in Zimbabwe. Fordham (2007) argues that: "Exhortations to appropriate action can suggest that the melding of disaster and development is a simple matter of common sense but this deceptive simplicity masks both conceptual and practical complexity". In this regard, the synthesis of theory and practice helps in reducing vulnerability to hazards and their associated disasters while at the same time promote development. Contextually, in this study, the simplicity and complexity of the disasters and development in Zimbabwe were examined based on scholarly evidence gathered through this study.

UNDP (2004:20) through a tabular presentation summarizes the Disaster – Development relationships in Table 5:9. In particular, the disasters and development relationships presented in Table 5:9 have been ignored for a long time. The aforementioned relationships are necessary if sustainable development goals are to be achieved. In particular, the development and disaster relationship in table 5:9 reminds development and disaster practitioners on the need to re-think how this important development studies terrain should be approached, ideally from a disaster risk reduction conceptual perspective.

Table 5.9: Disaster – Development Relationships

	Economic Development	**Social Development**
Disaster limits Development or Destroy Development Gains	• Destruction of fixed assets. Loss of production capacity, market access or material inputs. Damage to infrastructure like transport, communication, water and energy. • Erosion of development gains, loss of livelihoods, savings and physical capital.	• Destruction of health or education infrastructure and personnel. • Death, disablement or migration of key social actors leading to an erosion of social capital.
Development causes Disaster Risk	• Unsustainable development practices that create wealth for some at the expense of unsafe working or living conditions for others or degrade the environment.	• Development paths generating cultural norms that promote social isolation or political exclusion.
Development Reduces Disaster Risk	• Access to adequate safe drinking water, food, waste management and a secure dwelling increases people's resiliency. • Trade and technology can reduce poverty. Investing in financial mechanisms and social security can cushion against vulnerability. Enhanced resilience that is able to absorb shocks. • Informed policy and development planning guided by disaster assessments, vulnerability and capacity assessments, risk analysis and profiling.	• Building community cohesion, recognising excluded individuals or social groups (such as women and children), and providing opportunities for greater involvement in decision – making, enhanced educational and health capacity increases resiliency. • Opportunities for hazard mapping, vulnerability and risk analysis for integrated disaster risk reduction.
Disasters Create Development Opportunities	• Construction of earthquake resistant buildings through enforcement of building codes. Construction of dams for irrigation to mitigate food insecurity. • Decision makers more willing to allocate resources in the wake of a disaster.	• Employment opportunities and improved livelihoods and poverty reduction. • Food diversification and opening of markets. • Favourable environment for advocacy for disaster risk reduction measures.

	• Rehabilitation and reconstruction activities that create opportunities for integrating disaster risk reduction (DRR).	

Adapted from UNDP (2004:20) - Reducing Disaster Risk: A Challenge for Development, New York

The subsequent tabular illustrative analysis in tables 5.10, 5.11 and 5.12 provide a dashboard synopsis of the study's triangulated responses used to validate the study hypothesis, statement of the problem as well as the conceptual and practical benefits of disaster risk reduction within the Zimbabwean context. The structured responses in tables 5.10 – 5.12 clearly summarize the disaster and development nexus. A close analysis of the findings in these tables 5.10 – 5.12 further reveals that most responses scored high on the positive with 99.1% average rating being the highest score and 58.1% being the lowest positive score that agrees with the statements on the key disaster and development elements. Those who moderately agreed had a highest mean rating standing at 15.9% and the lowest in this category is 0.9%. A cumulative analysis of responses who disagreed with some statements was very limited, with its highest scoring being 26% and its lowest being 0.9%. The findings in tables 5.10 to 5.10, therefore, clearly confirms that disasters and development are correlated and DRR should be priorities in Zimbabwe if vulnerability, poverty and

disasters are to be reduced. More detailed findings on disaster and development elements follows in the subsequent discussions.

A macro analysis of the disasters and development elements in tables 5:10, 5.10 and 5.12 reveals that 99.1% of the responses agreed that disaster risk reduction (DRR) strategies mitigate disasters and reduce the progression of vulnerability. In addition, 0.9% of the responses moderately agreed to the same notion. Overall, 100% of the study respondents agreed that investing in DRR pays dividends as in curtails vulnerability progression that makes people suffer when disasters impact on them. Subsequently, this confirms the Pressure and Release" models for disaster management as postulated by Wisner, et al., (2004).

An interesting feature in the disasters and development elements is revealed in table 5:10 where varied views where given by respondents on development programmes being a catalyst in increasing the area's vulnerability to disasters. A world-wide analysis of the findings reveals that 58.1% agreed to the above notion (this marks the lowest ratings in tables 5.10 – 5.12). In addition, 15.9% of the retorts moderately agreed to the above notion. However, 26% of the combined responses reveals that they do not see some development programmes as drivers of vulnerability.

Generally, people perceive development positively forgetting some of the negative impacts it may have which are ingredients of vulnerability. For instance, environmental degradation due to mining extractives, environmental pollution through toxic waste, fossil fuels and other pollutants. Therefore, Zimbabwe and other developing nations need to invest in awareness raising on environmental and human health impact of development programmes.

Recapping from the above discussion, the Inter-Governmental Panel on Climate Change (IPCC) in 2007 reported that development programmes in developing countries like Zimbabwe as we as developed ones have over a number of years contributed to Greenhouse Gas (GHG) emissions. This has led to climate change impacts and vulnerability. Reportedly, carbon dioxide emissions from fossil fuel combustion accounted for half of the total anthropogenic GHG emissions, followed by carbon dioxide emission from deforestation and decay of biomass (IPCC, 2007). In sum, it is without doubt that some development programmes may increase the area's vulnerability.

In a nutshell, the top five key disaster and developments linkages that registered the highest cumulative rating are: DRR as core to disaster mitigation and curtailing progression of vulnerability (99.1%), policies being

broad based to include DRR and all levels (98.3%), disaster management and development policies being pragmatic (96.6%), DRR as involving a range of actors (95%) and development programmes being central to vulnerability reduction. In this sense, disaster management and development policies should consider pragmatic implementation of DRR. At the same time, DRR should be broad-based because it involves a range of actors drawn from local communities, local or public authorities, government, NGOs, the Academia, donors, regional or international organizations and private sector. This justifies its holistic nature.

Table 5.10: Analysis of Disaster and Development Linkages – Part 1.

N = 158		**Area**			
Disaster and Development Elements		**Buhera**	**Muzarabani**	**Harare**	**Total**
Disasters set back development programmes by destroying years of development initiatives	Disagree		4.7%		1.6%
	Moderate Agree	10.8%	4.8%		5.2%
	Agree	89.2%	90.5%	100.0%	93.2%
Total		**100%**	**100%**	**100%**	**100%**
Rebuilding after a disaster provides significant opportunities to initiate development programmes	Disagree	5.4%	4.7%		3.4%
	Moderate Agree	18.9%	14.3%		11.0%
	Agree	75.7%	81.0%	100.0%	85.6%
Total		**100%**	**100%**	**100%**	**100%**
Development programmes can increase an area's vulnerability to disasters	Disagree	16.6%	36.4%	25.0%	26.0%
	Moderate Agree	30.6%	4.5%	12.5%	15.9%
	Agree	52.8%	59.1%	62.5%	58.1%
Total		**100%**	**100%**	**100%**	**100%**
Development programmes can be designed to reduce vulnerability to disasters and their negative consequences	Moderate Agree	10.8%		4.2%	5.0%
	Agree	89.2%	100.0%	95.8%	95.0%
Total		**100%**	**100%**	**100%**	**100%**

Disaster Risk Reduction (DRR) strategies mitigate disasters and reduces progression of vulnerability (Pressure & Release Model)	Moderate Agree	2.7%			0.9%
	Agree	97.3%	100.0%	100.0%	99.1%
Total		**100%**	**100%**	**100%**	**100%**
DRR promotes increased capabilities and community resilience to withstand disaster shocks	Disagree	2.7%		4.2%	2.3%
	Moderate Agree	5.4%	14.3%		6.6%
	Agree	91.9%	85.7%	95.8%	91.1%
Total		**100%**	**100%**	**100%**	**100%**
Adopting and implementing a robust DRR approach mitigates disaster impacts and promote sustainable development	Moderate Agree	8.1%	4.5%	4.2%	5.6%
	Agree	91.9%	95.5%	95.8%	94.4%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Table 5.10 shows that 100% of the responses from Harare agreed that disasters set back development programmes and destroy years of development initiatives. In Centenary-Muzarabani, 90.5% agreed with on the same view while 4.8% moderately agreed, and the remaining 4.7% did not agree. In Buhera, responses show that 89.2% agreed with the above notion and the remaining 10.8% moderately agreed. When disasters strike, physical and social infrastructure, as well as livelihoods, are affected. Henceforth, rebuilding after a disaster provides noteworthy opportunities to initiate development programmes.

In view of the above statement, responses in table 5.10 showed that 100% of respondents from Harare agreed, 81% of the study subjects in Centenary-Muzarabani agreed, 14.3% moderately agreed and 4.7% disagreed. Similarly, in Buhera, 75.7% agreed, 18.9% moderately agreed and 5.4% disagreed.

ISDR (2009), IFRC (2012), UNDP (2012) and OCHA (2012) are of the view that DRR promote increased capabilities and community resilience to withstand disaster shocks. In this study, the analyzed findings in table 5.10 show that 97.7% of the responses, ranging from moderately agree to agree, support this perspective. However, 2.3% of the responses did not see disagreed, showing the homogenous nature of society and how they perceive disaster and development. In addition to the above, 94.4% of responses agreed and 5.6% moderately agreed that it is important for Zimbabwe to adopt and implement a robust DRR approach if she is to mitigate the impact of disasters on her citizens and promote sustainable development.

Table 5.11 Analysis of Disaster and Development Linkages – Part 2

N = 158		Area			
Disaster and Development Elements		**Buhera**	**Muzarabani**	**Harare**	**Total**
DRR Framework is holistic and bridges the disasters and development divide	Disagree			4.3%	1.4%
	Moderate Agree	2.7%	9.5%	8.7%	7.0%
	Agree	97.3%	90.5%	87.0%	91.6%
Total		**100%**	**100%**	**100%**	**100%**
DRR is a unifying framework for disasters and development correlation, theory and practice	Moderate Agree	10.8%	9.5%	12.5%	11.0%
	Agree	89.2%	90.5%	87.5%	89.0%
Total		**100%**	**100%**	**100%**	**100%**
DRR strategies, allows for translation of theory(policies) into practice, thereby reducing exposure to disasters and sustaining development	Moderate Agree	2.7%	4.8%	8.3%	5.3%
	Agree	97.3%	95.2%	91.7%	94.7%
Total		**100%**	**100%**	**100%**	**100%**
Poverty alleviation, development and DRR are highly correlated	Disagree		5.0%		1.7%
	Moderate Agree	8.1%	5.0%	4.2%	5.8%
	Agree	91.9%	90.0%	95.8%	92.5%
Total		**100%**	**100%**	**100%**	**100%**
Blending disasters and development with DRR provides for the use of composite eclectic strategies for hazard assessment, vulnerability and risk analysis, disaster mitigation, enhancing community resilience and poverty reduction	Moderate Agree	11.1%	9.5%	4.3%	8.3%
	Agree	88.9%	90.5%	95.7%	91.7%
Total		**100%**	**100%**	**100%**	**100%**
Investing in DRR yields social, economic and environmental benefits	Disagree	2.7%			0.9%
	Moderate Agree	2.7%	14.3%	8.3%	8.4%
	Agree	94.6%	85.7%	91.7%	90.7%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

The scholarship of Van Niekerk (2012) argues that Disaster Risk Reduction is the holistic and binding paradigm that cuts across the disasters and development continuum. Van Niekerk (2012:2) postulates that: “Using the trans-disciplinarity as paradigm reference to a number of theories, models and tools in many disciplines will show how each has a unique contribution to make to the field of disaster risk reduction”. This notion fits perfectly with responses in Table 5:11 that reveal that 91.6% of the study respondents agreed that DRR framework is holistic and bridges the disasters and development divide. Similarly, 89% of the respondents also agreed that DRR unifies the disaster and development correlation.

Disaster and development literature put forward by Stephenson (1994 and 2007), Twigg (2004), likewise reiterated by Wisner et al. (2004) and Collins (2009) revealed empirically some correlation between these two variable and their impact on vulnerability, disaster mitigation and sustainable development. Drawing to the study responses, it shows that 92.5% of the responses agreed that poverty alleviation, development and DRR are highly correlated. Hence, their discussion in this study merit the debate because blending disaster and development with DRR allows for the use of composite eclectic strategies in undertaking hazard assessment,

vulnerability and risk analysis, disaster mitigation, enhancing community resilience and poverty reduction.

Noting the alarming trend of environmental degradation and pollution in Zimbabwe, it shows that the culture of ecological conservation and end-of-cycle waste management or recycling is minimally practiced. The findings of this study show that environmental degradation and pollution are some of the key hazards of concern in Zimbabwean communities (see tables 5:1, 5:2 and 5:3). Contemporary literature on climate change and ecological health suggests that investing in disaster risk reduction yield social, economic and environmental benefits.

Martin and Watson (2016) argue that saving ecosystems is the best way to protect people from the effects of climate change. In particular, forests provide shelter to extreme weather events, they are home to a host of valuable ecosystems that are vital to human population as a source of food, medicine and timber. Likewise, a healthy ecosystem provides clean air, cleans water and provides assertive beauty to the environment (Martin and Watson, 2016). Therefore, table 5:12 reveals that the majority of the responses agree (93.8%) with the view that the correlational nature of disaster and development can be demystified by exploring

complementarities that promote sustainable development, poverty reduction and well-managed ecosystems. This is a practice that requires strengthening in the Zimbabwean society in both rural and urban settlements paying attention to gender issues, the poor, the chronically ill, child-head and women-headed or elderly-headed household and other people that are socially excluded in society.

One critical finding of this study is that unsound development policies increase the risk of disasters. An in-depth analysis of the responses reveals that in Buhera, 94.4% (agreed) and 5.6% moderately agreed. Harare responses show that 91.6% of the responses agree, 4.2 moderately agree and 4.2% disagree to the same notion. Centenary-Muzarabani responses indicated that 85% agreed, 10% moderately agreed and only 5% disagreed. A further analysis based on the mean from the three study areas therefore reveals that the majority (90.4%) agreed with the opinion unsound policies expose vulnerable people to disaster risks.

In particular, the Civil Protection Act of 1996 Chapter 10:06 is one such policy frameworks that give a thrust on structural and procedural issues rather than focusing on holistic disaster management. The name “Civil Protection” does not dove-tail with regional (SADC) and global focus of

Disaster Management and Disaster Risk reduction as enshrined in the Hyogo Framework for Action (2005 – 2015) and Sendai (2015 – 2030) Framework.

Table 5.12: Analysis of Disaster and Development Linkages – Part 3

N = 158		**Area**			
Disaster and Development Elements		**Buhera**	**Muzarabani**	**Harare**	**Total**
DRR involves a range of actors	Disagree		4.8%		1.6%
	Moderate Agree	5.4%	4.8%		3.4%
	Agree	94.6%	90.4%	100.0%	95.0%
Total		**100%**	**100%**	**100%**	**100%**
Unsound development policies increase the risk of disasters	Disagree		5.0%	4.2%	3.0%
	Moderate Agree	5.6%	10.0%	4.2%	6.6%
	Agree	94.4%	85.0%	91.6%	90.4%
Total		**100%**	**100%**	**100%**	**100%**
Policy and practice rhetoric increases the risk of disasters, vulnerability and affects sustainable development	Disagree			8.7%	2.9%
	Moderate Agree	13.5%	15.0%	8.7%	12.4%
	Agree	86.5%	85.0%	82.6%	84.7%
Total		**100%**	**100%**	**100%**	**100%**
Disasters and development policies should be broad based to include DRR	Moderate Agree		5.0%		1.7%
	Agree	100.0%	95.0%	100.0%	98.3%
Total		**100%**	**100%**	**100%**	**100%**
Disaster management and development policies should be pragmatically implemented by allocating adequate resources to mitigate disasters	Disagree		5.0%		1.7%
	Moderate Agree		5.0%		1.7%
	Agree	100.0%	90.0%	100.0%	96.6%
Total		**100%**	**100%**	**100%**	**100%**
Disaster and development nexus can be demystified by exploring complementarities	Disagree			4.3%	1.4%
	Moderate Agree		10.0%	4.3%	4.8%
	Agree	100.0%	90.0%	91.4%	93.8%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014).

In addition to the above discussion on disaster and development fundamentals, the majority (84.7%) of the responses tabulated in table 5:12 agreed with the opinion that a rhetoric approach on theory (policies) and practice immensely contributes to the risk of disasters and their consequences on vulnerable people and sustainable development. However, responses on the same notion also showed that 12.4% moderately agreed while on the other hand, 2.9% disagreed. Further, earlier discussions in this study highlighted that Zimbabweans are good in conceptualizing and drafting good policies. Though, the application and resourcing of these policies remain in vain. Hence, this study offers Zimbabweans an opportunity to introspect on a number of policies and how they have been pragmatically implemented, particularly those related to development, environmental/environmental health management and disaster management. One respondent from Harare highlighted the importance of disaster mitigation and pragmatic implementation of policies by providing the following insights (see box 5.3).

Box 5.3 Interviewee's Views on Disaster Mitigation and Policy Implementation

We cannot enjoy development without mitigating disasters. Likewise, a rhetoric approach to policy implementation in the areas of development and disaster management is a recipe for disaster. In other word, it increases levels of vulnerability and entrenches people in the realms or yokes of poverty from generation to generation. Hence, achievement of sustainable development goals can be a pipe dream for Zimbabwe if we do not change our theoretical conceptualization and practice in the areas of disasters and development. Food for thought!

Source: Fieldwork (2014)

5.3.7 Disaster and Development – Theory and Practice

Recapping from the above discussion, the findings tabulated in table 5:13 reveal that 74% of the average respondents from Buhera, Harare and Centenary-Muzarabani are of the opinion that the current disaster management policies are not adequate to mitigate disasters in Zimbabwe. On the other hand, 26% are of the opinion that policies are there but are being implemented in a manner that is not systematic. It is worth noting that the Department of Civil Protection in Zimbabwe has moved some strides in

disaster risk management through the production of the disaster management resource book for educational institutions in 2009. However, the policy framework remains civil protection focused resulting in implementation discord. In practice, this results in policy mismatch and clarity on the policy direction becomes tenuous.

A further analysis of responses in tables 5:13 and 5:14 clearly shows consistence in responses from Muzarabani topping in the inadequacy of policies with a score of 85%. Similarly, coming out prominently in table 5:14 where a sizeable number of responses 41.2% indicating that development policies are not helping in mitigating disasters and promoting sustainable development. Hence, government and NGOs should invest more in reaching out to rural areas by implementing community-based disaster management initiatives and policy awareness campaigns that feed into macro-level policies. Similar DRR investment should be undertaken by the private sector and civil society.

Zimbabwe, in 2011, developed a Disaster Risk Management Bill and Zimbabweans at all levels in Society appreciated the move. In fact, the aim was to strengthen the policy framework in line with Regional (SADC) and global trends. Ironically, this has remained a ‘Bill’ since then without being

translated into a Disaster Management Act. Apparently, it is the duty of policy makers to facilitate the ascendance of this bill into an ‘Act’. To be more specific, this points to a lip service or a rhetoric approach on the part of policy makers. This is against the backdrop that Zimbabwe is signatory to SADC protocols and Global agreements like Hyogo and Sendai in 2005 and 2015 respectively that have a focus on disaster risk reduction and holistic disaster management. Prioritizing the legalization of Disaster Risk Management policy in Zimbabwe is fundamental given the susceptibility of Zimbabwe to multiple natural, human-induced and anthropogenic hazards that can easily progress into disasters, thereby retarding development gains. Suffice to say that public authorities entrusted with administrative and policy implementation risk getting into oratory when they work with a defective and out-dated policy. One then wonders: why is Zimbabwe missing the opportunity of fully embracing disaster management in totality yet it has high levels of literacy and actively participates in global and regional forums? The answer to this question lies in the unpacking of the disasters and development linkages interfacing them with disaster risk reduction theoretical framework.

Table 5.13: Adequacy of Disaster Management Policies

N = 158		Area			Total
		Buhera	Muzarabani	Harare	
views on the adequacy of current disaster management policies on mitigating disasters	No	73.0%	85.0%	64.0%	74%
	Yes	27.0%	15.0%	36.0%	26%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Documents reviewed in this study revealed that the Zimbabwean Government, through the Department of Civil Protection, drafted a Disaster Risk Management (DRM) Strategy 2012 – 2015. The DRM strategy clearly identifies most of the hazards frequently affecting Zimbabwe and her people. At the time of conducting this study, the department was conducting awareness training to local government, district authorities and some stakeholders on the importance of disaster risk reduction in Buhera. On the contrary, communities within Buhera district were not clear of the disaster risk management initiatives, thus showing that this has not yet been cascaded to community levels. One of the key findings highlighted that the policies where inadequate to mitigate disasters because of lack of policy implementation and inadequate resourcing of public (central/local) institutions, particularly those involved in policy implementation. One

interviewee summarized the adequacy of disaster management policies by making the suggestions below (see box 5.4).

Box 5.4 Respondent's Views on Adequacy of Disaster Management Policies

There are existing and new legislations, policies and strategies that have a bearing on disaster management. For example, the Public Health Act, Environmental Management Act, Rural Councils and Urban Councils Acts, Model building by-laws and regulations, Strategy to accelerate Access to Sanitation and Hygiene and others. However, there are a variety of challenges including weak institutions, financial constraints, exodus of human capital (brain-drain) and inadequate qualified technical personnel. Equally, there is weak enforcement of environmental, public health laws and building by-laws that militate against effective disaster mitigation. Consequently, this creates a void or mismatch in policy implementation particularly in rural areas that maybe be remote and difficult to reach.

Source: Fieldwork (2014)

Table 5.14: summarizes views on whether or not development policies in Zimbabwe facilitate disaster mitigation and incrementally promote sustainable development.

Table 5.14: Development Policies as Drivers Disaster Mitigation and Promoting Sustainable Development in Zimbabwe

N = 156		Area			Total
		Buhera	Muzarabani	Harare	
Would you say development policies facilitate mitigation of disasters and promote sustainable development in Zimbabwe	No	29.7%	41.2%	33.3%	34.7%
	Yes	70.3%	58.8%	66.7%	65.3%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Furthermore, mixed views were expressed on the notion that development policies facilitate mitigation of disasters and promote sustainable development in Zimbabwe. In Muzarabani, for example, 41.2% of the respondents were of the opinion that development policies are not fostering mitigation to disasters. Correspondingly, the Centenary-Muzarabani district is affected by floods perennially, and development projects like dams and irrigation have not been galvanized as measures to mitigate against agro-climatic conditions that lead to droughts.

On a positive note, table 5.14: shows that 65.3% of the responses from Buhera, Harare and Centenary-Muzarabani agreed that development policies offer mitigation measures against disasters and promote sustainable development. For instance, the mandatory policy on conducting environmental impact assessments in Zimbabwe. This policy when enforced ensures that development projects or programmes do not exercise negative impacts on the environment and subsequently, this mitigates on the creation of new hazards. Some respondents suggested that while they agreed that development polies facilitate mitigation, they felt that these policies are not synchronized. Equally, an element of silo planning and implementation were highlighted as key impeding factors in policy implementation. Hence, this creates a gap in both theory (policy) and practice in Zimbabwe when it comes to development and disaster management. Therefore, this does not reflect the congealed nature of development gains within disasters. An aspect of thinking outside the box and working jointly as teams at all levels from community to central government levels is required if disaster management and development are to mitigate the impact of disasters on society and its resources. Table 5.15 provides a visual ‘at-a-glance’ illustrative summary of some of the opinions on the theoretical and practical gaps that exist in Zimbabwe in relation to disaster and development.

Table: 5.15: Disasters and Development – Theoretical and Practical Gaps (Part A)

N = 158		Area			
Disasters and Development – Theoretical and Practical Gaps		**Buhera**	**Muzarabani**	**Harare**	**Total**
Some policies exist but they lack pragmatic implementation	Moderate Agree	11%		12.0%	7.7%
	Agree	89%	100.0%	88.0%	92.3%
Total		**100%**	**100%**	**100%**	**100%**
The Civil Protection Act Chapter 10:06 Zimbabwe, needs a review in line with regional and global standards	Disagree	2.7%		8.0%	3.6%
	Moderate Agree	10.8%	15.0%	4.0%	9.9%
	Agree	86.5%	85.0%	88.0%	86.5%
Total		**100%**	**100%**	**100%**	**100%**
Disaster management and development policies have weak linkages	Disagree	8%	5.0%	4.0%	5.7%
	Moderate Agree	19%	5.0%	12.0%	12%
	Agree	73.0%	90.0%	84.0%	82.3%
Total		**100%**	**100%**	**100%**	**100%**
Joint planning and implementation among disaster management practitioners and development planners requires strengthening	Moderate Agree	6%		4.0%	3.3%
	Agree	94%	100.0%	96.0%	96.7%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

The issue of policies being in existence but lacking practical implementation has already been touched in earlier discussion. However, responses in table 5:15 simply amplify this notion. For instance, 100% of the responses

from Muzaramabi agreed with this notion. Equally, Buhera had the majority of the responses (89%) also agreeing and Harare's affirmative responses stood at 88%. In reality, this shows that the lack of practical implementation of policies are a concern in Zimbabwe, as revealed through this study. Further, 82.3% of the responses suggested that disasters and development policies have weak linkages. Similarly, 12% of the responses also moderately agreed with this view, while the remaining 5.7% disagreed. This points to glaring deficiencies in policy and practice that result in policy discord and lack of mainstreaming.

It is worth mentioning that Zimbabwe can learn how other developing and disaster prone countries like Bangladesh and the Philippines have strengthened their craft literacy and competency in disaster management. Arguably, Oxfam (2007:4) asserts that: "Strong models of disaster management practices can be found in Bangladesh and the Philippines—two Asian countries that are widely acknowledged to have been most active in the region in taking measures to prevent, mitigate, and cope with disasters". Drawing lessons from other countries gives Zimbabwe a chance to introspect on the areas it might me lacking which are also suggested through the findings of this study in tables 5:15 and 5:16 in a tabular analysis.

Table 5.16: below complements the analysis already reflected in table 5.15: above. In particular, it reinforces the analysis on the perceptions regarding theoretical and practical gaps in development and disaster management policies implementation in Zimbabwe. In summary, the majority of the respondents in table 5.18, ranging from a cumulative response of 89.5% to 97%, strongly agreed that there are glaring deficiencies on theory and practice in Zimbabwe.

Table: 5.16: Disasters and Development – Theoretical and Practical Gaps (Part B)

N = 158		**Area**			
Disasters and Development – Theoretical and Practical Gaps		**Buhera**	**Muzarabani**	**Harare**	**Total**
DRR needs to be integrated into disaster management policies and cascaded to community levels	Moderate Agree	3%	9.5%	4.0%	5.5%
	Agree	97%	90.5%	96.0%	94.5%
Total		**100%**	**100%**	**100%**	**100%**
Government, NGOs, International organizations at all levels should take practical steps to invest in DRR	Moderate Agree		5.0%	4.0%	3%
	Agree	100.0%	95.0%	96.0%	97%
Total		**100%**	**100%**	**100%**	**100%**
DRR should be included in the school curriculum	Moderate Agree	11%	15.0%	4.0%	10%
	Agree	89%	85.0%	96.0%	90%
Total		**100%**	**100%**	**100%**	**100%**
Community involvement is less in disaster management	Disagree		4.8%		1.6%
	Moderate Agree	6%	4.7%	16.0%	8.9%
	Agree	94%	90.5%	84.0%	89.5%
Total		**100%**	**100%**	**100%**	**100%**
People tend to have a '**reactive**' rather than a '**proactive**' approach to disaster management	Moderate Agree	5.4%	4.8%	4.0%	4.7%
	Agree	94.6%	95.2%	96.0%	95.3%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Table 5.16: shows that 97% of the responses in Buhera, 90.5% in Centenary-Muzarabani and 96% in Harare strongly agreed that DRR needs to be integrated into disaster management policies and cascaded to community levels. On the same note, 3% of the responses in Buhera, 9.5% in Centenary-Muzarabani and 4% in Harare moderately agreed with the above notion. Practically, this means that disaster management policies should make DRR an integral part of the policy framework. In this regard, resilience will be strengthened and communities will be able to withstand disaster shocks.

Likewise, Government, NGOs, International organizations at all levels should take practical steps in Zimbabwe to invest in DRR. This view received a resounding majority rating of 100% of the responses in Buhera, 95% in Centenary-Muzarabani and 96% in Harare strongly agreeing. Equally, 5% and 4% of the respondents in Centenary-Muzarabani and Harare respectively, moderately agreed to this opinion. When the opinions are aggregated to get a mean, table 5:16 reflects that 97% of the study participants strongly, while 3% moderately agreed to the assertion that investing in DRR pays socio-economic, political and governance benefits that collectively strengthen the community resilience.

Responses in Table 5.16: show that 89%, 85% and 96% in Buhera, Centenary-Muzarabani and Harare, respectively, concur that DRR should be prioritized in the school curriculum, while the remaining 11%, 15% and 4% in the same order moderately agreed. The study further noted that the Department of Civil Protection made some strides in making DRR known in schools through the development and subsequent publication of disaster management resource handbook for educational institutions in Zimbabwe. However, this book did not reach all schools or might not have been supported through a coherent policy framework. Hence, the need for the Department of Civil Protection to work jointly with the two ministries of education (primary/secondary and tertiary). This way, the awareness on DRR will be increased and sustained since the respective ministries of education have direct control of curriculum related issues in educational institutions in Zimbabwe. Other examples cited by interviewees included disaster management courses being offered at certificate, diploma, bachelors and post-graduate levels at institutions like National University of Science and Technology (NUST), University of Zimbabwe, Africa University, Bindura University of Science Education, Midlands State University and many others institutions. Interviewees indicated that the wake-up call for such courses was muted, post-cyclone Eline in 2000, with

NUST being one of the pioneering universities to offer a diploma in Disaster Management and Development. In this regard, Zimbabwe need to be commended for these efforts, although they still require scaling up and galvanizing theory into practice.

The study reveals that community involvement in the areas of disaster and development discourse is very low in Zimbabwe both theoretically and practically. One can summarize it by suggesting that there is a lack of community-based approaches in these two areas. Undoubtedly, this leads to incoherent approaches, limited community buy-in due to unclear roles, lack of innovation and use of resources (especially environmental ones) without thinking of future generations.

In the end, it is the vulnerable communities that suffer the disaster and poverty consequences. Reportedly, Oxfam (2007:1), in their lessons, learnt report on the Tsunami Disaster suggested that there is "…need for clear lines of responsibility among various actors; greater support for community participation and bottom-up approaches; greater focus on disaster risk prevention; and attention to promoting gender equity and to meeting the needs of communities' most vulnerable members". The findings of this study in table 5:16 agree with this notion, as revealed by a resounding majority

responses of 94% in Buhera, 90.5% in Centenary-Muzarabani and 84% in Harare. Furthermore, 6%, 4.7% and 16% in Buhera, Centenary-Muzarabani and Harare correspondingly moderately agreed with the notion of community involvement and participation in disaster management. Only 4.8% from Centenary-Muzarabani disagreed with this theoretical and practical gap. Thus, disaster management actors and development practitioners at all levels in Zimbabwe should foster the involvement of communities in managing hazards, vulnerabilities, risks and disasters. Similarly, efforts should be made toward enhanced community capabilities as suggested by Sen (1999) so that they are resilient to disaster shocks.

Discussions during focus-groups and interviews revealed that Zimbabweans tend to be reactive rather than being proactive when it comes to disaster management. A reactive culture leads to increased impact when disasters strikes. Interestingly, most of the disasters that affect Zimbabwe are predictable and frequently occurring. For example, floods, droughts, epidemics and anthropogenic hazards that can be easily monitored, thus allowing for dissemination of early-warning messages through various forms of media. This way, preparedness or a proactive culture will be nurtured that help in minimising the impact of disasters when they occur. The findings in table 5:16 shows that popular responses agreed with the

notion of lack of emergency response preparedness in Zimbabwe. For instance, 94.6%, 95.2% and 96% in Buhera, Centenary-Muzarabani and Harare correspondingly strongly agreed with the reactive approach to disaster management while a further 5.4%, 4.8% and 4% in the same order of study areas moderately agreed.

The Department of Civil Protection had some flyers with flood warning messages jointly produced with an NGO. While the Department of Metrological Services (DMS) provides early warning messages for extreme weather events. The Ministry of Health was acknowledged as one of the few ministries which provides early warning and awareness messages through multiple sources (mass-media/electronic) including use of mobile phones. Ebola and cholera alert messages were cited as good examples from the Ministry of Health. However, respondents felt that generally disaster preparedness was rather ‘reactive’ instead of being proactive. In such instances, messages only come when mortality in high numbers has been registered in some cases – the cholera 2008 epidemic was referenced as one such example as well as 2000, 2001 and 2003 floods. Other disasters like drought provided lead early warning signs before reaching crisis, but Zimbabwe in 1998, 2001, 2007/2008, 2010 and 2013 (see table 5.3) was caught unprepared. In some cases, these droughts have not given

Zimbabwean communities time to recover as they have happened more frequently due to climate change related effects.

An interviewee from Buhera commented on the theoretical and practical gaps in policy implementation in Zimbabwe by suggesting the following (see Box 5.5).

Box 5.5 Respondent's Views on Theoretical (Policy) and Practical Gaps

When it comes to disaster and development theoretical (policy) and practical gaps, I actually rekindle the post-independence era when Zimbabwe championed the 'education and health for all policies'. These were carried out through policy announcements that were cascaded to local community, village and household levels with tangible actions leading to the country achieving highest literacy rates in Africa. If this vigour and vibrancy is applied to development and disaster management policies, undoubtedly vulnerability, disasters and poverty will be reduced. Equally, Zimbabwe will achieve high scores in the development arena. Hence, what is needed is a paradigm shift with practical actions not just talk-shows – and not theorizing too much.

Source: Fieldwork (2014)

Contextually, in Zimbabwe, disaster mitigation and development linkages have theoretical and practical gaps as reflected in the tabular analysis in

tables 5:15 and 5:16, and affirmed with by comments in box 5.5. Further, table 5:17 provides an examination of areas that require strengthening in bridging Zimbabwe's theoretical and practical gaps in disaster mitigation.

Table 5.17: Areas for Improvement: Disaster Mitigation and Development

N = 158		**Area**			
Suggested Areas for Improvement		**Buhera**	**Muzarabani**	**Harare**	**Total**
Disaster management policies	No		11.1%		3.7%
	Yes	100.0%	88.9%	100.0%	96.3%
Total		**100%**	**100%**	**100%**	**100%**
Development policies	No	5.7%	15.8%	4.2%	8.6%
	Yes	94.3%	84.2%	95.8%	91.4%
Total		**100%**	**100%**	**100%**	**100%**
Disaster Risk mitigation	No	3.1%	5.3%		2.8%
	Yes	96.9%	94.7%	100.0%	97.2%
Total		**100%**	**100%**	**100%**	**100%**
Integrating DRR into development planning	No		16.7%		5.6%
	Yes	100.0%	83.3%	100.0%	94.4%
Total		**100%**	**100%**	**100%**	**100%**
Local level disaster management structures	No		11.1%	4.2%	5.1%
	Yes	100.0%	88.9%	95.8%	94.9%
Total		**100%**	**100%**	**100%**	**100%**
National level disaster management structures	No	8.6%	11.1%		6.6%
	Yes	91.4%	88.9%	100.0%	93.4%
Total		**100%**	**100%**	**100%**	**100%**
Local/central level development structures	No	5.7%	10.5%		5.4%
	Yes	94.3%	89.5%	100.0%	94.6%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Findings in table 5.17: reveal that responses from Buhera prioritized the following areas for improvement as a way to enhance policy (theory) and practice in Zimbabwe namely: disaster management policies (100%), integrating DRR into development planning (100%), local level disaster management structures (100%) and disaster risk mitigation (96.9%). Table 5.17: further shows that the majority of Buhera responses also indicated the following as priority areas for improvement development policies (94.4%), local and central level development committees/structures (94.3%) and national level disaster management structures (91.4%).

Revealingly, responses from Buhera suggest that they were more concerned with issues that concern them that is why national level disaster management structures received a lower score of 91.4% compared to other areas suggested for improvement with regard to theory and practice. Thus, communities are conscious of issues that impact them, hence the need for the involvement and participation as suggested by Oxfam (2007) in their study on Asian Tsunami disaster.

In Muzarabani, diverse views were expressed compared to either Harare or Buhera with the highest majority score of 94.7% and the lowest of 83.3%. Interestingly, integrating DRR into development planning besides getting a

majority of responses of 83.3% it was ranked the least among the seven areas to be improved. This might be attributed to the lack of awareness or clarity on what DRR is all about. In this regard, there is need for government, NGOs, local authorities and other stakeholders to invest in DRR awareness among the community. This also tallies with the issue of development policies which was also rated at 84.2%.

Table 5.17: also reveals that respondents in Muzarabani are of the view that the following areas require improving as suggested by substantial majority scoring as follows: disaster risk mitigation (94.7%), local and central level development structures (89.5%), local level disaster management structures (88.9%) and the same score of response for disaster management policies (88.9%), as well as national level disaster management structures.

Responses from Harare tabulated in table 5:17 clearly show a 100% rating on the following five priority areas: disaster management policies, disaster risk mitigation, integrating DRR into development planning, national level disaster management structures and local/central level development committees/structures. This did not mean other areas were rated low, but they also scored highly with 95.8% for both – development policies and local

level disaster management structures. A further analysis on the rating of local level disaster management structures may reveal the urban settlement structure where most emergency are responded to by local authorities compared to rural areas where first responders are normally the affected community. In sum, the study findings reflected in table 5:19 revealed a substantially high score justifying the need to improve the theoretical and practical gaps for disaster mitigation and development linkages that require firming in Zimbabwe.

In addition to the findings in table 5:17, respondents for the study suggested some reasons why the above mentioned areas require improving. Therefore, some of the reasons include; the need for bringing together the fragmented disaster risk management policies, mainstream DRR, climate change adaptation and vulnerability and capacity analysis as espoused by (IFRC, 2007; Bongo, 2011; Brown et al., 2012). Likewise, disaster management policies require improving in line with global trends and avoid being archaic. The improvement of theoretical and practical linkages will enable resource allocation and maximize utilization, facilitate a paradigm shift of mind-sets from a reactive to a more emergency response preparedness (ERP) culture that will mitigate the impact on the most vulnerable, build resilience and promote sustainability in development as

reaffirmed by Kohler (2016). Similarly, research interviewees, participants and respondents suggested that improving policy and practical linkages facilitate a move towards a holistic approach in the fields of disaster management and development. To achieve this periodic reviews on disaster risk management will be required benchmarked on Sendai DRR Framework (2015 – 2030) and Sustainable Development Goals (2015 – 2030) agenda. In addition, there is a need to walk-the-talk than just giving a lip-service that result in people being entangled in vulnerability, poverty and development stagnation.

5.3.8 Factors that Affect/Influence Disaster Mitigation and Development Linkages

Achieving a ‘disaster-free-world’ is not attainable because of the continued interaction of hazards, vulnerability and risks that are intertwined with weak capabilities and low resilience, particularly in developing nations. All this happen in a dynamically changing environment in which people live in. The same contextual genre also applies to Zimbabwe, hence a discussion on disaster-free-world can be viewed as grandiloquence as it lacks practical reality. Reaffirming the above, Collins (2009:86) asserts that “disasters are conceptually inevitable”. However, a cohort of mitigation strategies helps to reduce the impact of disasters on the vulnerable population thereby

protecting development gains. It should be noted that “disasters alter social and economic terrains, potentially resulting in both development losses and some gains” (Collins, 2009:88).

In practice, it is possible to mitigate disaster risks, reduce poverty/vulnerability, analyse or map hazards and assess community capabilities as enshrined in the Hyogo (2005) and Sendai (2015) Frameworks for Disaster Risk Reduction. To be more specific, implementing a robust disaster risk reduction in Zimbabwe is a priority and not a choice. Notably, the study findings revealed that some disaster mitigation, vulnerability capacity analysis and disaster reduction initiatives are minimally existing in Zimbabwe. The same applies with the various policy frameworks to guide in disaster management and promotion of sustainable development. In principle, such DRR initiatives should focus on rural and urban communities in disaster prone areas with high levels of vulnerability.

Reiterating the above views, it is broadly recognized that Africa is one of the most vulnerable regions in the world due to widespread poverty, limited coping capacity and her high levels variable climate (Madzwamuse, 2010; UNFCCC, 2007). This exposes a number of countries in Africa to hydro-

meteorological climate-related disasters like droughts, floods and their associated secondary/tertiary effects on the environment and a surge in gastrointestinal infections like cholera, dysentery and typhoid. Zimbabwe in particular is susceptible because of being an agro-based economy that relies on rain-fed agriculture and climate sensitive resources (Chagutah, 2010). In this section the factors that influence or affect disaster mitigation and development nexus are discoursed.

Table 5:18 summarize views on the existence of mitigation strategies aimed at reducing the impact on the development agenda. The findings in table 5:18 further reveal a majority rating on the existence of mitigation strategies like environmental impact assessments (EIA), monitoring of industrial waste discharges and environmental pollution as well as waste management including end-of-cycle management. However, the findings in table 5:20 show ambivalent responses of 11.4% in Buhera, 23.8% in Centenary Muzarabani and 20% in Harare who doubted the existence of such mitigation strategies. What this implies is that public authorities, NGOs, private sector and other key stakeholders need to disseminate widely such mitigation strategies or even profile case studies through action research that involve communities. In general, table 5:18 illustrate high positive responses of 88.6%, 76.2% and 80% from Buhera, Centenary-Muzarabani

and Harare accordingly. Overall, a cumulative majority mean response of 81.6% cumulative affirmatively confirmed the existence of mitigation strategies against a mean response score of 18.4% that provide ignorance on such existence. Therefore, the evidence in table 5:18 reveal existence of mitigation strategies that require holistic implementation through community-based approaches.

Table 5.18: Views on Existence of Mitigation Strategies.

N = 158		Area			Total
		Buhera	Muzarabani	Harare	
Existence of local mitigation strategies to mitigate impact on development	No	11.4%	23.8%	20.0%	18.4%
	Yes	88.6%	76.2%	80.0%	81.6%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

In addition to the above, notable examples of mitigation strategies on development cited by study respondents include; building codes, EMA policy, public health Act, water and sanitation policies/practices, health and hygiene practices, safety standards as approved by various boards such as Zimbabwe Standards Association, adoption of drought tolerant seed varieties or early-maturing seeds, disaster response/evacuation plans and business continuity plans. In light of the above, some of the additional mitigation measures proposed by interviewees/respondents from all three study locations pointed to the need for monitoring pollution levels,

environmental degradation, enforcing EMA, Public Health Act and Environmental Health regulations. Equally, the response suggested the need for ecological modernization, thus promoting ecological health, minimise environmental degradation and enhance sustainable development in Zimbabwe. Some respondents from Buhera and Centenary-Muzarabani suggested the need for reforestation and reclamation of the environment to minimize siltation and drying up of water sources. One respondent from Harare suggested that water mining should be minimized to reduce impact on the environment and existing/future development programmes.

During a focus group discussion in Harare, they clearly acknowledged that some mitigation measures are in place but in recent years some of them have not be enforced or carried out. For instance, refuse collection has become erratic and the culture of recycling is now promoted by local authorities. The main reason is that the local authorities themselves do not have equipment and plants that can facilitate recycling of waste like plastics or other materials that can be used for bio-energy or manure. Another interviewee from Harare weighed in by suggesting that the government should operationalize the inter-ministerial task force because disaster and

development cuts across a number of fields. A view strongly supported by Collins (2009:3) as illustrated in Figure 28:

Figure 28: Disasters and Development Multi-Disciplinary Perspectives

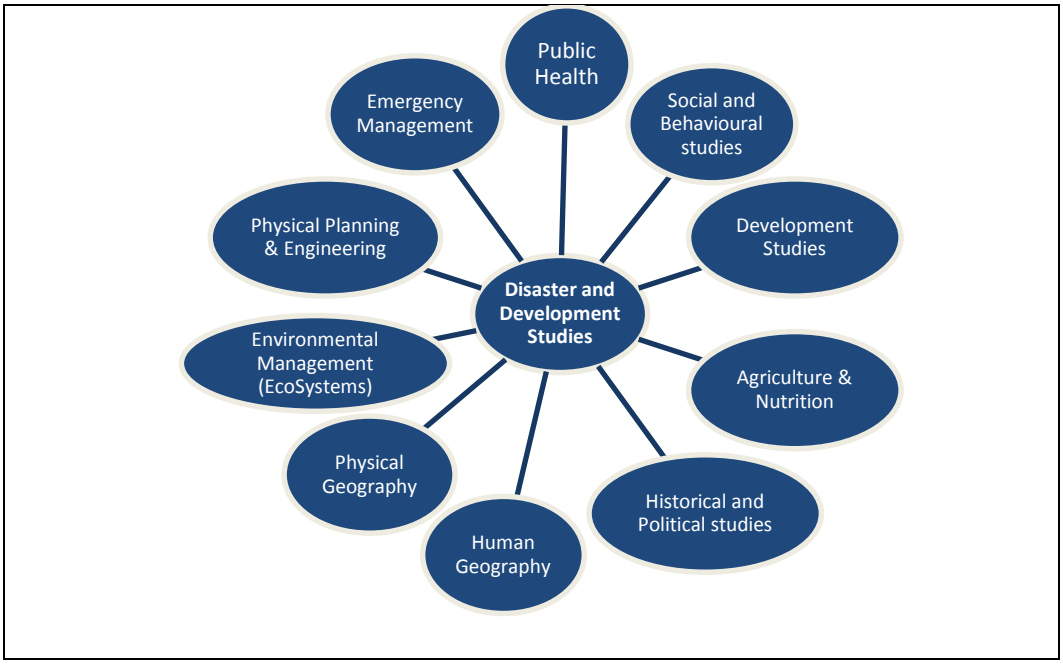


Figure 28: Disasters and Development Multi-Disciplinary Perspectives – Adapted from Collins (2009:3) Disasters and Development, London, Routledge

Generally, the disaster and development field are broad and require well thought mitigation strategies that are rooted in pragmatism through the involvement of the affected communities and institutions that they interact with. Collins (2009:46) postulated that “Interpretations of disasters in terms

of development range from fatalistic views of unsustainable development to more optimistic versions of the human capacity to cope, adapt and prosper". In this case, the optimistic view is what disaster risk reduction aims to do in building the coping and resilience capacity for the most vulnerable people some who need to unmask from the realms of poverty that has been relayed from generation to generation. Accordingly, Collins (2009:46) suggests that "poverty and disaster vulnerability are multidimensional conditions demanding integrated reduction strategies". The same applies to Zimbabwe and the need for local mitigation strategies. This, therefore, challenges disaster management practitioners, governments, NGOs, International organisation and donors to invest more in disaster risk reduction – a key thrust in 2015 Sendai Framework for DRR's priory number three on DRR investment for resilience.

This seals the gap that can exist if disasters and development are not tackled as union friends. Disaster risk reduction, therefore, should be taken as the conceptual framework of choice in synthesizing the disasters and development nexus both theoretically and practically. This facilitates an affirmative move from an apocalyptic no-hope ideology to a more optimistic perspective where disasters and development sail in the same boat. In practice, the boat if navigated through disaster risk reduction theoretical

framework it is geared towards a more sustainable development destination. What is striking in the above argument is the need to pay close attention on the disasters and development linkages rather than ignoring them, and put in place DRR mitigation strategies.

Moving on to factors that hinder the achievement of disaster mitigation and development linkages in Zimbabwe, study interviewees, participants and respondents highlighted the following as critical for consideration in unpacking the hindrances. These can be summarized as political, governance, economic, Social (cultural, religious, perceptions and attitudes/behaviours), environmental and technological. These factors were attributed to incoherent policies and their implementation, a reactive culture, weak enforcement of policies, theorizing too much, weak governance and lack of political will. Likewise, haphazard prioritization of issues and how they affect the populace were also cited in the responses as hindering the achievement of disaster mitigation and development in Zimbabwe.

Table 5.19: Progressive Analysis of Disaster Mitigation and Development Linkages

N - 158		Area			Total
		Buhera	**Muzarabani**	**Harare**	
If you were to rate the Disaster Mitigation and Development linkages in Zimbabwe, would you say they are?	Progressive	8.8%	13.3%	4.3%	8.8%
	Slowly progressing	85.3%	80.0%	91.4%	85.6%
	Stagnant	5.9%	6.7%	4.3%	5.6%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Table 5.19: shows that majority responses from the study suggest that disaster mitigation and development linkages are slowly progressing in Zimbabwe. A detailed analysis of table 5.19: shows 85.3% in Buhera, 80% in Centenary-Muzarabani, 91.4% in Harare and overall rating of 85.6% agreeing to the above notion. In the same order**,** 8.8%, 13.3%, 4.3% and overall score of 8.8% indicated that the linkages are progressive but require improvement if people are to withstand disaster shocks and reduce poverty and vulnerability. In contrast**,** 5.9% from Buhera, 6.7%, Centenary-Muzarabani, 4.3% from Harare and an overall mean score of 5.6% are of the view that Disaster mitigation and development synergies are stagnant in Zimbabwe and require a complete overhaul for that they can view as progressive. The implications of the findings in table 5.19: therefore,

suggest that public authorities, NGOs, donors, private companies, civil society and the community at large require putting more effort in transforming the stagnant and slowly progressive nature of the nexus into a more robust one that can be judged by society and progressive. Once, this level is achieved, Zimbabwe, as a nation state, will be in a position to move downwards from a high risk score of 5.1 to a more acceptable risk score within the range of 0 – 2 very low or 2.1 to 3.5 low according to INFORM (2015). The answer to this lies in the shift of mind-sets from a reactive to a more proactive DRR focused holistic approach.

Table 5.20: Macro-Level Factors Influencing Disaster Mitigation and Development Nexus

N = 150		**Area**			
Political, Social, Economic, Technological and Environmental Factors		**Buhera**	**Muzarabani**	**Harare**	**Total**
To what extent do you agree or disagree?	Moderate Agree	3%	5%	12%	6.7%
	Agree	97%	95%	88%	93.3%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Collins (2009) in figure 28 identifies the multi-disciplinary nature of the disaster and development terrains. Hence, factors that influence or affect these two fields are diverse. In this study the macro level factors were

identified as political, economic, social, technological and environmental (PESTE). These five factors were identified as facilitative or hindrances that require both micro and macro-level consideration and monitoring when designing and implementing development and disaster mitigation programmes respectively. A substantial majority of the responses strongly agreed that PESTE are the macro factors for consideration. This is revealed in the responses in table 5:20 that shows 97% in Buhera, 95% in Centenary-Muzarabani, 88% in Harare and overall mean response of 93.3% agreeing highly to the above notion. Likewise, 3% in Buhera, 5% in Centenary-Muzarabani, 12% in Harare and overall mean response of 6.7% also moderately agreed with PESTE as macro-level factors where micro factors branch from. This reveals high levels of convergence among responses who all concurred to PESTE as macro trajectory factors that are paramount in the development and disaster mitigation in Zimbabwe.

In addition to the above, the respondents also highly agreed with micro-level factors tabulated in tables 5.21: and 5.22: This is reflected in the positive responses ranging from 64.2% - 100% across the three study areas with the exception of one micro-level factor of high toxic waste and environmental pollution that received mixed views particularly in Centenary-Muzarabani where it was rated at 28.6% of agree responses, 33.3%

moderately agreeing and 38.1% disagreeing. What this implies is that issues of toxic waste and environmental pollution are not prevalent at high levels in Centenary-Muzarabani compared to Buhera and Harare. For instance, in Buhera toxic waste were cited with references to discharges from mines, while in Harare the level of industrialization and mechanization of the city makes it susceptible to toxic waste discharges from industries and multiple environmental pollutants from industries, power-stations, fossil fuels and other pollutants. In sum, responses in tables 5.21: and 5.22: evidently show that majority responses agreed on above mentioned as key determinants for disaster mitigation and development correlation.

Generally, tables 5.21: and 5.22: are summative and triangulate analytically the key issues in the disasters and development discourse.

Table 5.21: Factors Influencing Disaster Mitigation and Development Nexus (Part A)

Factors that influence Disaster Mitigation and Development Linkages-Theoretically and Practically in Zimbabwe	**N = 158**	**Area**			**Total**
		Buhera	**Muzarabani**	**Harare**	
Disaster management policies not cascaded to community levels	Moderate Agree	18%		14%	10.7%
	Agree	82%	100.0%	86%	89.3%
Total		**100%**	**100%**	**100%**	**100%**
Inadequate policy framework for disaster mitigation and development	Disagree	3.7%			1.2%
	Moderate Agree	18.5%	5.3%	14.3%	12.7%
	Agree	77.8%	94.7%	85.7%	86.1%
Total		**100%**	**100%**	**100%**	**100%**
Limited translation of policies into practice	Moderate Agree	7.1%		4.8%	4%
	Agree	92.9%	100.0%	95.2%	96%
Total		**100%**	**100%**	**100%**	**100%**
Disaster Management and development practitioners 'silo planning'	Disagree	3.6%			1.2%
	Moderate Agree	7.1%	10.5%	10.0%	9.2%
	Agree	89.3%	89.5%	90.0%	89.6%
Total		**100%**	**100%**	**100%**	**100%**
DRR less considered as an integral part of development planning	Moderate Agree	7.1%		14.3%	7.1%
	Agree	92.9%	100.0%	85.7%	92.9%
Total		**100%**	**100%**	**100%**	**100%**
DRR being given less priority in the school curriculum	Disagree	3.6%		4.8%	2.8%
	Moderate Agree	7.1%	10.0%	14.2%	10.4%
	Agree	89.3%	90.0%	81.0%	86.8%
Total		**100%**	**100%**	**100%**	**100%**
Inadequate resource allocation to DRR and environmental management	Disagree		5.0%		1.7%
	Moderate Agree	7.1%	5.0%	4.8%	5.6%
	Agree	92.9%	90.0%	95.2%	92.7%
Total		**100%**	**100%**	**100%**	**100%**
Increased population concentration in hazard prone areas	Disagree	3.6%			1.2%
	Moderate Agree	21.4%	5.0%	9.5%	12.0%
	Agree	75.0%	95.0%	90.5%	86.8%

Total		**100%**	**100%**	**100%**	**100%**
Social destitution and social injustice that may increase poverty	Disagree	3.7%			1.2%
	Moderate Agree	25.9%	5.0%	4.8%	11.9%
	Agree	70.4%	95.0%	95.2%	86.9%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

Table 5.22: Factors Influencing Disaster Mitigation and Development Nexus (Part B)

Factors that influence Disaster Mitigation and Development Linkages-Theoretically and Practically in Zimbabwe	**N = 158**	**Area**			**Total**
		Buhera	**Muzarabani**	**Harare**	
Unprepared populations and institutions leading to a 'reactive' rather than 'proactive' culture to disasters at all levels	Moderate Agree	21.4%	10.0%	14.3%	15.2%
	Agree	78.6%	90.0%	85.7%	84.8%
Total		**100%**	**100%**	**100%**	**100%**
Community's negative view on disasters as eroding developing gains	Disagree	11.1%			3.7%
	Moderate Agree	18.5%	10.0%	10.0%	12.8%
	Agree	70.4%	90.0%	90.0%	83.5%
Total		**100%**	**100%**	**100%**	**100%**
Environmental degradation and indiscriminate cutting down of trees	Disagree	7.1%			2.4%
	Moderate Agree	3.6%	9.5%	19.0%	10.7%
	Agree	89.3%	90.5%	81.0%	86.9%
Total		**100%**	**100%**	**100%**	**100%**
High toxic waste and pollution into the environment	Disagree	17.9%	38.1%		18.7%
	Moderate Agree	17.9%	33.3%	14.3%	21.8%
	Agree	64.2%	28.6%	85.7%	59.5%
Total		**100%**	**100%**	**100%**	**100%**
Hazard, risk, vulnerability and capacity assessment and analysis not being prioritised - thereby increasing vulnerability to disasters	Disagree	3.6%	4.8%		2.8%
	Moderate Agree	10.7%	4.8%	9.5%	8.3%
	Agree	85.7%	90.4%	90.5%	88.9%
Total		**100%**	**100%**	**100%**	**100%**

Community based approaches limitedly weak to maximize on disaster mitigation and development linkages	Moderate Agree	14.3%	4.8%	4.8%	8%
	Agree	85.7%	95.2%	95.2%	92%
Total		**100%**	**100%**	**100%**	**100%**
DRR strategies and indigenous knowledge systems not strongly linked	Disagree	3.6%	4.8%	4.8%	4.4%
	Moderate Agree	21.4%		9.5%	10.3%
	Agree	75.0%	95.2%	85.7%	85.3%
Total		**100%**	**100%**	**100%**	**100%**

Source: Fieldwork (2014)

One interesting finding for this study shows that as a result of spatial settlement in Buhera and limited impact of floods, 3.6% of the responses disagreed that increased population concentration is a micro-factor in disaster reduction and development linkages. However, such views were not replicated in Muzarabani where people recurrently affected by floods. In Harare, epidemics normally affect highly populated areas like Mbare, Mufakose, Kuwadzana, Budiriro, Mabvuku, Tafara and Dzivarasekwa. During fieldwork, it was evident that Buhera had suffered de-forestation that led to environmental degradation, gulley erosion, riverbed siltation of Save, Nyazvidzi and Mwerahari Rivers. Ironically, some 7.1% of the responses did not see this as an issue although it is visibly evident. Two of the respondents from the local leadership and public authorities are of the view that Buhera had suffered heavily to indiscriminate cutting down of trees and environmental degradation at alarming levels. Hence, the need to urgently

enforce EMA policy, raise awareness on tree growing/care, gulley reclamation and engage in conservation farming. In practice, Buhera will be able to restore its assertive beauty and minimise contributing to climate change. Other responses in table 5:22 from Buhera on the same issue revealed that 3.6% moderately agreed, and a majority of 89.3% strongly agreed. Going with the majority views, it shows that environmental factors need to be considered in disaster management and development planning in countries like Zimbabwe.

Another striking finding shows that 3.6%, 4.8% and 4.8% in Buhera, Centenary-Muzarabani and Harare in that order, disagreed that when DRR strategies and indigenous knowledge systems are not strongly linked that can affect disaster reduction and development linkages. However, the majority of the responses show cumulative response score of 10.3% moderately agreed and the remaining 85.3% strongly agreed. In this regard, the majority responses should be considered but the minority views cannot be ignored. For instance, some respondents who disagreed are of the view that indigenous knowledge systems apply mostly to natural and human-induced disasters like drought, floods and epidemics.

Further, indigenous knowledge systems can also apply to issues related to environmental management or even conflict. However, such knowledge

may not equally apply to disasters triggered by industrialization or mechanization or pollution. In this sense, the views raised by minority responses hold water, to some extent. The next section discusses some of the key issues for consideration in the disasters and development nexus, both theoretically and practically in Zimbabwe and beyond.

5.3.9 Key Considerations for Disasters and Development in Zimbabwe

An analytical review of documents in this study revealed that disaster risk reduction and global development frameworks are linked. For instance, the Hyogo Framework for Action (2005 – 2015) tallied well with the Millennium Development Goals (MDGs), while the Sendai Framework for DRR (2015 – 2030) perfectly tallies with the global development agenda - the Sustainable Development Goals (2015 – 2030). Therefore, disaster and development should be viewed as union companions that are conceptually and practically intertwined. The two variable fields hinge their success in community participation and involvement at all levels through cascading and translation of policies into practice. This is a key lesson that Zimbabwean policy makers, public authorities (local/central), disaster and development practitioners, donors, private companies and the general public should consider in disaster management and development programming.

Furthermore, a thorough document review in this study shows that the concept of disaster risk reduction gives a thrust on two key aspects of resilience and sustainability. First, resilience generally refers to the ability of a system in totality, community or society that is susceptible to hazards to resist, absorb, accommodate/contain and recover from hazards effects in an efficient way (ISDR, 2009). This includes the preservation and restoration of the community's or the system's basic structural and functional issues. In other words, resilience refers to balancing efficiency with redundancy of the system/society to withstand hazard/disaster effects from the environment and its political, social, economic and social factors (Kohler, 2016). In fact, it is the capability of bouncing back that is critical in resilience conceptualization and DRR empowerment of societies. In this regard, Sen's (1999) capabilities theory provides a spring board for shaping resilience in society if Zimbabwe is to wean itself from chronic and protracted disaster impacts on the most vulnerable populace.

The second key concept in DRR, as revealed through documents review in this study, is sustainability. Contextually, referring to DRR, sustainability simply refers to maximizing the efficiency of a system/society and reducing the impact on people and their environment (Kohler, 2016). This concept

goes hand-in-hand with sustainable development concept whose thrust is on development that meets the needs of the present without compromising the ability of future generations to meet their own needs (UNDP, 2004:136). The implications of this are that development and disaster practitioners should encourage ecological modernization, ensure that environmental impact assessments (EIA) are carried out and enforcement of building codes, environmental/public health and environmental management Act (EMA). This will not only foster disaster and development linkages but ensure meeting the needs of future generations rather compromising on them. Likewise, Zimbabwe and other developing or developed nations should promote eco-DRR, reduce carbon emissions that result in global warning and climate change as well as anchor their disaster mitigation and development on sustainable development conceptualization that has a DRR theoretical look. ADPC (2013) suggests that in implementing both disaster and development programmes, there is a need to look at things from a risk lens by focusing on disaster risk reduction related to current and future hazards. This way, it reduces risk accumulation, progression of vulnerability and rapid incubation of hazards into disasters. In addition, ADPC's suggestion promotes sustainable development in a broad sense. A key point for Zimbabwe to watch given its exposure to both natural and human-induced hazards/disasters.

ISDR (2004) rightly noted that disaster risk reduction involves a range of key actors drawn from local communities, government, technical and educational institutions. Likewise, DRR paradigm involves professionals and commercial interests (ISDR, 2004), thus revealing the multidisciplinary nature of disaster risk reduction theoretical framework. Suffice to say that Kotze and Hollaway (1996), Twigg (2004 and 2009), and Wisner et al. (2004) concur that the disaster risk reduction framework is encompassing to include pre and post disaster activities and development that are intricately interwoven in a continuum or shaped like a spider web. Similar disaster risk reduction scholarship by DCP (2009), UNDP (2008), ISDR (2002) and IFRC (2012) amplifies the above views by highlighting the multiple benefits of DRR to the community, public authorities, industry and commerce. This therefore captivates its use at all levels in society because of the enshrined benefits.

A joint UNDP and OCHA publication through a video in 2012 gave alarming figures on the impact of disasters to development, humans and the environment. UNDP and OCHA (2012) assert that: “since the year 2000 almost one million people were killed due to disasters, while a further two billion were affected and more than one trillion United States Dollars (USD)

was lost to disasters alone". Despite the benefits of DRR stated earlier and the alarming disaster impact information above, UNDP and OCHA (2012) posit that only one percent of international aid money was spend on reducing the impact of disasters and just 10% would protect development gains. This clearly shows that a paradigm shift is required from the donors, governments, corporate world and society by investing in DRR. Suffice to say, that literature has revealed that investing in disaster risk reduction does not only facilitate disasters and development linkages, but there are economic benefits that can be recouped. Based on empirically grounded evidence, UNDP and OCHA (2012) in the video *'ActNow, Save Later'* claimed that one dollar (USD$1) spent in preparedness activities like disaster risk reduction results in a saving of seven dollars (USD$7) in response. This empirically-based proclamation by UNDP and OCHA (2012) reinforces the scholarly blessings of using the disaster risk reduction theoretical framework as put forward in this study, notwithstanding that some of the economic benefits of DRR are not tangible. Vorhies (2012), for instance, believes that investing in disaster risk reduction is worthwhile because of the direct, indirect and associated or extended benefits associated with the approach within the context of disasters and development.

In stressing the added value of disaster risk reduction, ISDR (2013) posits that: “Disaster risk reduction is the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters. ISDR (2013) reiterates that: “Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of disaster risk reduction”.

Empirical revelations from the discussions above validate the benefits of DRR conceptual framework as a pragmatic link for disasters and development. The DFID (2004:33) summarized the benefits of disaster risk reduction and its link to development by suggesting that; “In China, investment of US$ 3.15 billion in flood control measures over 40 years is believed to have averted potential losses of US$ 12 billion”. Hence, this translates to a saving of more than US$8.85 billion in economic terms. Social and environmental benefits cannot be ruled out too. Ultimately, this is a clear testimony that DRR is conceptually rich to bridge the disasters and development terrain holistically.

Recapping from the above and earlier discussions, one of the key consideration in the development and disaster debate are the benefits associated with DRR theoretical and practical look as detailed in table 5:23. A review of literature from Vorhies (2012:10) and Environmental Resources Management (2005) summarizes some of the extended or sustainable development benefits of implementing multidimensional disaster risk reduction activities holistically, as illustrated in Table 5.23:

Table 5.23: Extended Economic Benefits for Disaster Risk Reduction

Disaster Risk Reduction Activity	**Extended Economic Benefits (Linked to Sustainable Development)**
Flood protection structures	• Provision of irrigation or portable water and hydro-electric power. Increased opportunities for fish farming that will improve livelihood income sources and nutrition. • Eco-DRR and environmental sustainability with possibility for tourism opportunities.
Improvements in civil society networks and linkages	• Improved governance, organised and resilient social structures. Improved policy implementation and monitoring.
Proper and strategic planning	• Delivery of basic necessities (e.g. potable water, drainage, sewerage, power and community facilities). Land use planning.
Provision, strengthening or construction of durable shelters	• Serve as community facilities in non-disaster periods.
Improved water supply in rural, peri-urban and urban areas	• Decrease in oral-faecal diseases and improved health.
Construction and use of drainage pipes	• Improved irrigation practices, possibly improved agricultural practices

Community-based disaster preparedness	• Increase gender involvement with women's participation.
Installing more resilient wireless communications – mobile networks	• Access to telephony and electronic data services, possibly the use of mobile cash transfers like 'eco-cash' in Zimbabwe. Increased access to internet services, and Enhanced early warning systems
Training farmers in crop diversification, food preservation and utilization	• Reducing vulnerability to the realms of poverty. Crop diversification may improve income sources.
Monitoring of food supplies	• Improved food supply chain, possibly making it more cost effective
Water harvesting	• Food security, availability of water, improved nutrition through gardens

Adapted from Environmental Resources Management (2005: 13 – 14) in Natural Disaster and Disaster Risk Reduction Measures: A Desk Review of Costs and Benefits and Vorhies (2012:10) – The Economic of Investing in Disaster Risk Reduction – UNISDR

Collins (2009) suggests that to understand disasters in development and development in disasters one needs to take multipronged approach like DRR. The reason for that is the two variables have implications in a range of fields that include: public health, social and behavioural studies. More specifically, these development studies fields involve, historical and political studies, human geography, environmental management, physical geography, physical planning, agriculture and emergency management. Therefore, the myopic mentality should be dismissed when one looks at disasters and development and embrace the correlation that manifests in these two fields. In other words, by exploiting the synergies through DRR,

one moves some steps forward to facilitate the building of community resilience that is crucial for 'risk society' to withstand the shocks brought by disasters. This is in addition to mitigating the rapid progression of vulnerability and poverty.

In this study, theorizing disasters and development in Zimbabwe from a disaster risk reduction conceptual framework allowed for a synthesis of theory and practice with a sustainable development consciousness in mind. Arguably, a DFID (2004) scoping study found that poverty alleviation, development and disaster risk reduction (DRR) are highly correlated. Likewise, "inadequate attention to DRR can hinder progress in poverty alleviation and development", suggests the Environmental Resources Management (2005:2). Therefore, investing in DRR yields direct and indirect, or extended economic and social benefits, thereby reducing vulnerability to disasters. For these reasons, Zimbabwe cannot be an exception, given the empirical evidence that already reveals the correlations of development and disaster management and the need to invest in DRR.

In addition to the aforementioned, ISDR (2013) suggests that: "In order for development activities to be sustainable they must also reduce disaster risk. On the other hand, unsound development policies will increase disaster risk

- and disaster losses". Hence, it justifies the need for exploring the disasters and development synergies from a DRR perspective as proposed through the findings of this study. This calls for strong engagement and involvement with every part of society, every part of government, and every part of the professional, civil society, NGOs, academia and private sector. Nevertheless, theoretical frameworks cannot yield the desired results if not translated into practice. Precisely, a paradigm shift and political will is required if DRR is to be cultivated and grow into a conceptual framework of choice in disaster mitigation and sustainable development in Zimbabwe.

The strength of the DRR framework is drawn from its collective ability that cannot be doubted when blended with Stephenson's (1994) initial hypothesis to come up with a revisited robust Neo-Stephenson DRR conceptual approach proposed in Chapter three of this study. ISDR (2004:18) agrees with this view by suggesting that: "Most importantly, disaster risk reduction relies on the consequences of collective decisions made and individual actions taken or not taken". ISDR (2004:18) further argues that: the emergency of the disaster reduction culture is conditioned by the following contexts and processes:

- Political context;

- Sustainable development in its three related context: socio-cultural, economic and environmental; and
- Regional considerations linking disaster reduction and sustainable development

The above contexts and processes as correctly put forward by ISDR (2004), leave one with no doubt on the uniqueness of the Disaster Risk Reduction (DRR) conceptual framework. Hence, it further scholarly cements why it is strongly proposed as the theoretical framework of choice for discussing the disasters and development synergies in a developing country like Zimbabwe. What is most striking are the similarities of contextual issues identified by ISDR (2004) with the macro and micro level factors identified in the findings of this study. It is worth noting that these key factors can promote or hinder disaster mitigation and development nexus in Zimbabwe's rural, peri-urban and urban areas. In this regard, such factors require a thorough analysis planning and execution phases.

A strength, weaknesses, opportunities and challenges (SWOC) analysis of PESTE is required so as to capitalize on strengths and identify existing/potential weaknesses. Equally, the same applies in the identification of opportunities and explore how to navigate huddles or challenges or risks. Therefore, a SWOC analysis of PESTE in the context

of disaster and development should be translated into action through a paradigm shift.

Reflecting on the dominant view that disasters pose a threat to development and if development and disasters have a correlation Stephenson (1994), one wonders about the lack or limited investment in disaster risk reduction in Zimbabwe**,** as revealed in the study findings. This is premised on the notion that several scholars agree that DRR has high social, political, economic, technological as well environmental benefits. In such instances, the dream for sustainable development will be realized. Suffice to say the answer lies in holistically integrating disaster risk reduction into development, hence, transforming the vicious spirals of failed development, risk accumulation and disaster losses into virtuous spirals of sustainable development (DFID, 2004).

The holistic nature of disaster risk reduction approach in the context of disasters and development is supported by literature reviewed from scholars like Fordham (2007:335) who argues that: “Those concerned with disaster and development represent a diversity of interests including the academic/theoretical, the policy-related, the practitioner-oriented, and the political. This results in the generation of different theories and literatures ...

diverse constituencies and worldviews". Hence, disasters and development conceptually and practically represents diverse fields and a range theoretical perspectives that require discussing through a DRR lens. Fordham (2007) further asserts that: "Perhaps, not surprisingly, there can be conflicting expectations and even degrees of hostility and incomprehension, among those who deal in some way with disasters and/or development". This is an aspect revealed in the study findings that showed silo-planning and lack of harmonized disaster and development policies in Zimbabwe.

Additionally, the growing body of literature in the area of disasters and development has revealed that because of the diversity of people and institutions involved in these two multi-disciplinary terrains, different theories and literatures are generated. Notable examples include: social capital, capabilities, ecological modernization, modernization, development and sustainable development, humanitarianism, disaster management and disaster risk reduction, disaster risk management and disaster continuum. In addition, some theoretical views in these two fields also include: Pressure – 'disaster crunch' and Release – 'DRR' (PAR) models, economic and economic development and many more theoretical frames are generated. Hence, the reason adopted in using a mixed/triangulation methodology in

this study that digs deeper in theoretical and practical analysis with guidance from DRR conceptual look. More specifically, studying relationships between two different fields of disasters and development required an approach both qualitatively and quantitatively analyzes the nexus to ensure well-grounded findings.

It is illuminating to suggest that implementing disaster risk reduction has faced its fair share of challenges in Zimbabwe – the study findings revealed. Some of the challenges were equally highlighted by other scholars like Benson and Twigg (2004) who suggested that challenges in DRR implementation may include: lack of political will, lack of governance literacy, failure to be integrated into policies and development plans. Similarly, lack support from government or donors or private sector financial commitment as most donors see investing is DRR as ploughing resources in a 'disaster that will not happen'. The scholarship of Benson and Twigg (2004:4) agrees with the above views by proposing that: "... faced with limited budgetary resources, many policy makers have been reluctant to commit significant funds for risk reduction, although happy to continue pumping considerable funds into high profile, post disaster response".

It can be asserted that Disaster Risk Reduction is not just another scholarly conceptual framework but if pragmatically implemented in developing nations like Zimbabwe, it enhances building resilience that is enduring and can be sustained for life. A review of contemporary literature reveals that "resilience is for life" and disaster risk reduction is catalytic in building coping and enduring mechanisms that can help communities to push back the disaster shocks and vulnerability in times of distress (ISDR, 2014; UN 2014). Notwithstanding, that knowledge and experience acquired in the process of resilience building can be passed on from generation to generation just like a sporting relay, thereby building individual, community and institutional resilience to disasters, and ensuring sustainable development.

Emphatically, study responses drawn from interviews, focus-group discussions and questionnaires stressed that to improve the theoretical and practical correlation on disaster mitigation and development the following issues require consideration. Such issues include resourcing of institutions that deal with disasters particularly Department of Civil Protection, EMA, Provincial/district/Local authorities, departments/ministries of Health, Agriculture, public works, education, housing and many others that are part to the Civil Protection Committee. The same applies to the Metrological

department, National Social Security Authority (NSSA) and Development oriented departments. Once, these institutions are resourced, their capacities should also be increased so that they can adequately enforce policies practically including city-bylaws in the case of local authorities, urban and rural councils.

All these should be implemented with DRR in mind that has a strong emphasis on community participation at all levels. Notably, the central government should be the pace setter in making sure that the Disaster Management framework is broad enough to include DRR and the same for development policies that should mainstream DRR sincerely not just cosmetically as the case revealed through this study's findings. This will provide NGOs, Donors, the corporate world and other stakeholders with the framework for designing their local initiatives in DRR, thereby bridging the perceived disasters and development divide.

Repeatedly, the interviewees emphasized on the need to have a strong early warning system (EWS) that is activated and help inform communities on impending disasters for adequate preparation. This also includes environmental awareness campaigns that should be prioritized starting with the local or village levels. On the development side, a policy discord was

suggested as an area that require improving so as to stimulate economic growth, generate employment, increase disposable incomes and diversify livelihood sources that mitigate vulnerability progression. Similarly, such economic development moves a number of people beyond the poverty-datum line. Zim Asset, mining laws, agricultural policy framework and Indigenous and Economic Empowerment Act Chapter 14:33 of 2007 were cited as some of the development-oriented policies/laws that conflict each other leading to incoherent policy implementation. Overall, community driven DRR and development programming is more sustainable than the top-down approach that may face resistance at community levels in both rural, peri-urban and urban settlements. Respondents of this study highlighted that all these are not achievable if there is limited political will. On the same note, there is need to increased inter-sectoral collaboration as a paradigm shift from the current 'silo' programming approach or cosmetic involvement that is not taken seriously particularly by public authorities/administrators.

Some of the more general comments highlighted that in poor development or haphazard planning particularly in urban areas and Growth Points were residing in areas without water and sewage services. For example, Damfolds in Ruwa, Epworth, White Cliff and many other areas. For survival,

residents in these areas resorted to drawing water from a shallow well and use pit latrines or septic tanks in very small stands of 200 – 300m2. Resultantly, this led to contamination of water sources (shallow wells) and outbreak of diseases like cholera, typhoid and acute-watery diarrhoea. A clear sign of development failure and lack of disaster mitigation strategies in urban planning. In general terms, communities are not empty vessels or passive recipients of policy instructions and projects. Instead, communities can be so resourceful and their involvement in projects like tree growing/care, gulley reclamation, conservation farming, wetlands management, seedbanks and many more can pay huge dividends. Hence, their involvement ensures sustainability of projects.

5. 4 Conclusion

This chapter looked at a detailed qualitative and quantitative presentation, analysis and discussion of the disaster and development nexus findings with a focus on theoretical and practical issues in Zimbabwe. Evidently, there is a strong correlation between disasters and development, thus reaffirming the theoretical hypothesis put forward by Stephenson (1994) that argues that disasters and development are strongly correlated. This is a notion strongly supported by DuFrane (2002; 2005), UNDP (2004) and Collins (2009). Stephenson (1994) postulated that disasters and

development are correlated, as disasters can both destroy development initiatives and create development opportunities, and that development programmes can both increase or decrease vulnerability. Hence, instead of viewing disasters negatively, the study findings revealed that development gains and opportunities are congealed within disasters. The findings in this chapter also showed that that there are theoretical and practical gaps in the disaster and development terrain in Zimbabwe due to incoherent policy implementation. This is besides having very good blue prints. Hence, this results in weak craft competency, though craft literacy may be potentially existing in Zimbabwe. Furthermore, the study findings confirmed that Political, Economic, Social, Technological and Environmental (PESTE) factors are the macro level pillars that influence disaster mitigation and development linkages positively or negatively. Micro-level factors were also observed as key facilitators or inhibitors for disaster mitigation and development linkages in rural, peri-urban and urban areas in Zimbabwe, thereby impacting on the society's resilience capacity. The next chapter evaluates the disaster and development policy practice in Zimbabwe making also reference to broader global policy frameworks which Zimbabwe is signatory to.

CHAPTER 6: AN EVALUATION OF DISASTER AND DEVELOPMENT POLICY PRACTICE IN ZIMBABWE

6.1 INTRODUCTION

This chapter critically and analytical evaluates the disaster and development policy practice in Zimbabwe. The analysis recaps from earlier discussion in Chapter five by looking at the policy structure and its implementation with reference to disaster and development in Zimbabwe. In sum, this chapter concludes the disasters and development nexus discussion in this discourse through a reflection on theoretical and practical perspectives.

Understanding the policy framework sheds light to the conceptualization of hazards, risks, vulnerability, poverty, disasters and how they interact with development from central to local levels and vice versa. The study findings on the policy structure and its implementation in Zimbabwe revealed a centralized (top – bottom) approach that is heavily fragmented. For example, a thorough analysis of Zim Asset (2013) policy blue-print clearly shows that policy articulation takes a top-bottom style yet in principle the

Zim Asset is expected to champion both development and disaster management programmes in the country.

Likewise, a partisan approach is reflected in some key government policy documents thereby compromising on the nationality of such key policies. Examples can be drawn from Zim Asset and the Indigenisation and Economic Empowerment Act Chapter 14:33 of 2007. In particular, policy partisan perspectives are reflected in the Zim Asset (2013:1) which acquiescently pronounces that: "As the country moves forward, post the 31st July 2013 Harmonised Election, there is an urgent need to put in place an economic blue-print that is guided by the ZANU PF Manifesto…"

Furthermore, policy implementation in Zimbabwe is affected by structural-bottlenecks, weak institutional capacity and absence of a robust governance policy framework particularly in parastatals, public authorities and corporate world (Zim Asset, 2013). Resultantly, this leads to weak policy cohesion. Equally, in such cases, the manifestation of policy discord during implementation cannot be doubted. The implications of this are that disasters will continue to impact on the most vulnerable people in Zimbabwe. On the same note, development takes a snail's pace due to erosion of development gains and incoherent policies. In particular, failure

to have well-articulated policies on disaster and development have resulted in a reactive approach in Zimbabwe that has been heavily dependent on humanitarian aid in response to frequent and recurring disasters rather than having a nation with increased capacity with high levels of resilience to withstand disaster shocks. Zimbabwe should learn from the Hyogo (2005) and the Sendai Frameworks for DRR that put emphasis on a culture of safety and resilience at all levels. These views are also supported by Twigg (2007) who provided characteristics of resilient communities, a key aspect that is lacking within the Zimbabwean approach to disaster and development policy.

Disaster and development policies do not operate in a vacuum, but rather in an environment in which Zimbabwe interacts with regional (SADC), continental (Africa) and global actors. In this discussion, Zimbabwean policies on disaster and development are also compared or referenced to regional and global policy frameworks like the Hyogo Framework for Action (2005), Sendai Framework for DRR (2015), the MDGs and SDGs (2015). Similarly, other policies and agreements where Zimbabwe is signatory are discussed analytically. Such discussion in this thesis, provides insights into the disasters and development theoretical and practical gaps in Zimbabwe, where the vulnerable and poor continue to suffer from disaster impacts and

entrenched in realms of poverty passed on as a relay button from generation to generation in both rural and urban settings.

6.2 POLICY PERSPECTIVES

To understand policy practice analysis, it is important to start off by looking at its conceptual definitional explanation. Responses in this study viewed policy as what the government or organization intends to do and not to do. In the context of Zimbabwe, responses suggested that in some cases, they are involved in policy development particular examples were referred to the education sector, while some policies are top-down in most cases because of the centralized administrative structure operating in the country.

A review of a scholarly definition of policy pointed to the following: first, Braman (2006:66) suggests that “traditionally the word ‘policy’ has been reserved for public sector decisions.” This definition views policy in a narrow sense of public sector, yet policies can apply to a wider context that includes institutions or society or household. Nakamura and Smallwood (1980) view policy as a set of instructions from policy makers to policy implementers that spell out both goals and the means for achieving those set goals. This conceptualization of policy relates policies to goals and highlights the roles played by policy makers who are there to develop policies while implementers execute the policies based on set goals. Disaster

management and development policies are all set on goals to reduce disasters, reduce vulnerability and promote sustainable development gains in a resilient community.

Rist (1994:550) weighs in by emphasizing that: "Policies imply theories. Whether stated explicitly or not, policies point to a chain of causation between initial conditions and future consequences." In this sense, policies are equated to theories and their impact to current and future implications. This definition also holds water considering that in Disaster Management and Sustainable Development, one has to consider both the current and future implications of hazards and development gains respectively. This is in view that disasters and development a strongly correlated (Collins, 2009).

In addition to Rist's definitions above, Hogwood and Gunn (1984:13-19) assert that policy is a label for a field of activity, an expression of general purpose or desired state of affairs, specific proposals, decisions of government, formal authorization, a programme, output, outcome, a theory or model, and process. Hogwood and Gunn (1984:19-24) amplify policy definitional look by reiterating that: policies involve behaviour, intentions, inaction as well as action. Further, policies, therefore, have outcomes which may or may not have been foreseen. Hogwood and Gunn (1984:19-24)

assert that policy is "a purposive course of action but purposes may be defined retrospectively," More specifically, policy arises from a process over time, policy involves intra- and inter-organizational relationships, public policy involves a key but not exclusive role for public agencies, and policy is subjectively defined.

Hogwood and Gunn (1984) and Guba (1984) put forward the ideal policy practice situation that should be holistic and involving all key stakeholders. However, a review of policies like Zim Asset pointed to the opposite. Specifically, Zim Asset (2013:2) clearly highlights that consultation process in crafting the policy was carried out "…within Government and private sector and a review of previous national development programmes, greatly informed the formulation this blue-print, aptly named the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim Asset)…"

Guba (1984:70) defined and conceptualized policy as: an assertion of intents or goals; the accumulated standing decisions of a governing body . . . within its sphere of authority; a guide to discretionary action; a strategy undertaken to solve or ameliorate a problem; policy is sanctioned behaviour, formally . . . or informally through expectations and acceptance established over (sanctified by) time. Guba (1984:70) goes on to say: policy

is a norm of conduct characterized by consistency and regularity in some substantive action area; likewise, policy is the output of the policy-making system and in sum, policy is the effect of the policy-making and policy-implementing system as it is experienced by the client.

Put simply, policy is, therefore, a course or principled action approved or proposed by a government, institution, organization or society/individual that gives operational parameters. Nyoni (2007) is of the view that for policy architecture to be effective there is need to have a strong conceptual understanding of the policy framework (craft-literacy), coupled with effective capabilities to apply regulatory guidelines enshrined in a policy or law (craft-competency). For purposes of disaster management and development policy practice, evaluation in Zimbabwe, the study adopted Guba's (1984) broad-based definition of policy.

Contextually, Zimbabweans are good in craft literacy generally, but what lacks is a pragmatic focus on policy implementation and resourcing the different institutions and goals enshrined in policies. In some cases, the political will gathers momentum but fails to get cascaded to community levels. Why? one wonders? The answer lies in wider consultation (top-down, bottom-up) and driving the policy as a national agenda by reaching

out to all stakeholders including civil society, traditional leadership and religious groups. In two focus group discussions, participants in this study indicated that once policies are implemented along partisan lines, there are challenges and resistance in their implementation which derails success. Disaster and development policies in Zimbabwe are not spared from this fractured implementation process. When put to context, it therefore requires a paradigm shift in the way people view policies whether they are driven from a political manifesto or not, the key issue is, that is, people need to look at positives and advocate on the improvement of the negatives.

6.3 THE ADMINISTRATIVE POLICY STRUCTURES AND INSTITUTIONS

An analytical review of the policy and practice in Zimbabwe clearly shows that the two are not adequately engaging each other, thus resulting in policy and practice mismatch. This might be attributed to the fact that Zimbabwe as a nation state has not yet completely weaned itself from the pre-colonial centralized administrative structures even in its post-colonial era. In practice, the centralized hierarchical administrative policy structures do not adequately dove-tail with a society whose people are democratized, though on the other hand, Zimbabwe herself claims to be swimming in a democratized state governance structure.

Illustratively, figure 29: reflects a centralized and hierarchical administrative policy structure in Zimbabwe. In sum, the Zimbabwean Government structure consists of the executive headed by His Excellency the President who is deputized by two vice Presidents. This is cascaded to Ministerial levels. Some ministries have departments headed by a Director (see Table 6.2) whose level is equivalent to a Provincial Administrators. From provinces, the structure drops to districts, wards, villages and finally household level (see figure 29). Notably, some departments have human resources and institutional representation from head office to ward or village levels, for instance, the department of Agriculture Technical and Extension Services, education and to some extent, health services. Structurally, there are Village Development Committees that meet on *ad hoc* basis depending on projects, but they do not have strategic or master plans for their villages or wards serve for the district, province and national levels.

Figure 29: Zimbabwe Government Administrative Structure

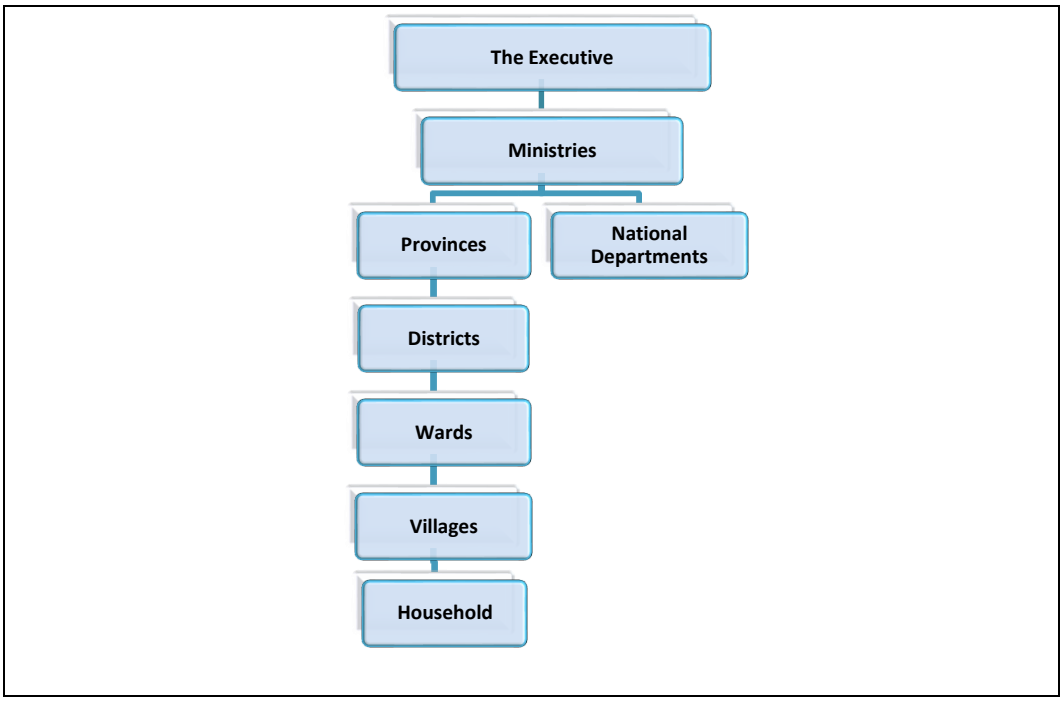


Figure 29: Zimbabwe Government Administrative Structure

Source: http://www.zim.gov.zw Retrieved on 10 March 2016

In Zimbabwe, executive powers are exercised by the government, while the legislative powers are vested in both the government and parliament. The parliament is involved in the crafting, review and passing of most policies and Acts. Similarly, the administrative arm of government also issues administrative policy instructions and the equally local authorities and urban authorities in the form of by-laws.

Table 6.1: Zimbabwe Government Ministries (2016)

Ministry of Agriculture, Mechanisation and Irrigation	Ministry of Local Government, Public Works and National Housing
Ministry of Defence	Ministry of Mines and Mining Development
Ministry of Environment, Water and Climate	Ministry of Primary and Secondary Education
Ministry of Energy and Power Development	Ministry of Public Service, Labour and Social Welfare
Ministry of Finance and Economic Development	Ministry of Lands and Rural Resettlement
Ministry of Foreign Affairs	Ministry of Small and Medium Enterprises and Cooperative Development
Ministry of Health and Child Care	Ministry of Sports and Recreation
Ministry of Higher and Tertiary Education, Science and Technology Development	Ministry of Tourism & Hospitality Industry
Ministry of Industry and Commerce	Ministry of Transport and Infrastructural Development
Ministry of Information, Communication Technology, Postal and Courier Services	Ministry of Women Affairs, Gender and Community Development
Ministry of Justice, Legal and Parliamentary Affairs	Ministry of Youth, Indigenization and Economic Empowerment
Ministry of Media, Information and Broadcasting Services	Ministry of Home Affairs
Ministry of Micro-Economic Planning and Investment Promotion	Ministry of Rural Development and Preservation of national Cultural Heritage

Source: http://www.zim.gov.zw Retrieved on 10 March 2016

Table 6.1 provides a snapshot view of the ministerial structures in Zimbabwe that are responsible for carrying out policy development implementation and review. The structure looks ballooned for a developing nation, and there are risks of duplication and overlaps among ministries that may compromise on the efficacy of policy practice in the country. Accordingly, achieving disaster mitigation and development linkages in Zimbabwe faces a myriad of challenges, which if not pragmatically addressed, may erode the development gains and subject people to poverty and vulnerability. For instance, the government structural and institutional bottle-necks. Evidently, a review on the government ministries and departments in tables 6.1 and 6.2 shows that duplicity cannot be ruled out. For example, there are three key ministries endowed with economic development namely: Ministry of Finance and Economic Development, Ministry of Micro-Economic Planning and Investment Promotion and Ministry of Youth, Indigenization and Economic Empowerment. This is in addition industry and commerce, small and medium enterprise development. Furthermore, duplication can result from ministries of Local Government and rural development whose constituencies and operations overlap. Instead of complementing each other, there will be competition and duplication. Responses in this study raised concern regarding those

aspects of duplicity as this affects holistic disaster management and development in the country.

Additionally, tables 6.1 and 6.2 reflect the Central Government structure for Zimbabwe as of March 2016. The issues of disaster management and development are dealt with in multiple and fragmented ministerial or departmental structures, for instance, Department of Civil Protection (DCP) falls under the Ministry of Local Government, Public Works and National Housing. The DCP, therefore, is expected to champion Disaster Management issues in the country as functional directorate. However, a close analysis of the Zimbabwe Government in table 6.1 shows that issues of Climate change are independently dealt with in the ministry of Ministry of Environment, Water and Climate. More specifically, Zim Asset (2013) in its cluster outputs bestows the responsibility of championing disaster management policy to the Ministry of Environment. Specifically, Zim Asset (2013:33) suggest that "climate and disaster management policy strengthened and implemented; … Ministry responsible for Environment". This leads to policy discord and grandiloquence policy implementation that has fragmented accountability. Fragmented policy practices have a huge impact particularly on the rural populace in Zimbabwe who are exposed to multiple hazards, increased levels of vulnerability and poverty. This is

against a backdrop of 67% of Zimbabweans living in rural areas (ZIMSTAT, 2012).

Zimbabwe's administrative structure consists of eight provinces plus two metropolitan provinces (Harare and Bulawayo) totalling ten. This structure is supported by respective districts in each province, while a number of wards constitute a district and a village being the smallest unit after a ward. More specifically, provincial, district, rural and urban councils' administration falls under the Ministry of Local Government, Public Works and National Housing. The same applies with the Department of Civil Protection (DCP). The DCP consists of only seven (7) officers at Head Office. This leaves a void at provincial and district levels where such structural functions are not replicated. In this regard, the issues of disaster risk management are assigned to Provincial and District Administrators who are also endowed with other responsibilities. Resultantly, lip-service is given to disaster management in Zimbabwe. Hence, the vulnerable continue to suffer from disaster consequences, and a sluggish development path manifests as development gains are eroded by disasters and relief aid.

Nevertheless, empowering the Provincial and District Administrator as chairperson for local civil protection units is a noble idea in making sure that

this function gets attention from senior public servant. However, in practice, in the Zimbabwean context their involvement has been disaster response focused as they do not have much time to invest in other aspects of the disaster continuum. Further, if the provincial and district structures are well resourced (human, material, financial, time) with clear functional disaster risk management units, there are high chances of defragmenting the silos at local level and work as teams based on identified hazards in the respective province or district.

Table 6.2: Zimbabwe Government Departments (2016)

Department of Agriculture Technical and Extension Services	Department of National Archives
Department of Central Computing Services	Department of Research & Specialist Services
Department of Civil Protection Directorate	Department of Immigration
Department of Deeds, Companies and Intellectual Property	Department of The Auditor General
Department of District Development fund	Department of The Registrar General
Department of Livestock and Veterinary Services	Department of The Surveyor General

Source: http://www.zim.gov.zw Retrieved on 10 March 2016

Table 6.2 tabulates the various central government departments in Zimbabwe, including the Department of Civil Protection (DCP). The DCP is

established through the Civil Protection Act [Chapter 10:06]. The Department of Civil Protection is primarily established to execute its functions when disasters occur and also consider the planning part of it through the involvement of local government structures, security forces, civil aviation, fire brigade, the Health Ministry and Zimbabwe Red Cross Society.

Notably, structural defects are identified in the above National Civil Protection Committee as it is response-oriented and leaves out other ministries and departments that should be involved when compared to holistic disaster risk management approach. For instance, there is the Ministry of agriculture for drought mitigation, metrological department for early warning and preparedness planning, EMA and Ministry of Environment, Water and Climate for environmental issues, hydro-metrological issues and climate change, vulnerability and adaptation. These are just a few of the missing departments and ministries from the Civil Protection Act's Part III section four of 1996.

6.4 DISASTER MANAGEMENT AND DEVELOPMENT POLICIES PRACTICE REVIEW

An analysis of the Civil Protection Act Chapter 10:06 reveals that the policy is totally silent of Disaster Risk Reduction and key aspects of the disaster

continuum serve for civil protection plans, declaration of disaster and response. Actually, the Civil Protection Act Chapter 10:06 focuses on structural establishments and their functions. Subsequently, such policy silence might be the reason why Zim Asset assigned the Ministry of Environment, Water and Climate the lead role for ensuring climate and disaster management policy strengthening and implementation. Such actions by central government may result in topsy-turvy policy practices. In this regard, the policy becomes more of a placeholder Act that is distant from realities, hence a mismatch in disaster management theory and practice in Zimbabwe, as revealed in this study.

The findings in this study reveal that the Civil Protection Act [Chapter 10:06] defined civil protection as "…any service provided or measure taken for the purpose of preparing for, guarding against or dealing with any actual or potential disaster". This definition narrowly confines itself to 'civil protection' as opposed to the global thinking of disaster risk management. Specifically, disaster risk management refers to: "The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster" (ISDR, 2009:10). This reveals the out-dated nature of the Civil

Protection Act and the need for accelerating the enactment of the 2011 Disaster Management Bill into an Act.

In addition to the aforementioned, responses in this study revealed that an outstanding majority of 96.4% concurred that the Civil Protection Act Chapter 10:06 in Zimbabwe, needs a review in line with regional and global standards. The remaining minority of 3.6% disagreed with view with some not being clear of the policy its self and showing limited contemporary disaster risk management thinking. Additionally, the study reveals that 97.1% of the study response are of the view that a rhetoric approach on theory (policies) and practice increases the risk of disasters and vulnerability, and affects sustainable development. Only 2.9% of the responses did not affirmatively agree to this view. A reality check further shows Zimbabwe being ranked on a very high 5.1 risk index according to INFORM (2015) indicating high levels of vulnerability and weak capabilities or resilience. Thus, Zimbabwe cannot continue to rhetorically prioritise disaster risk management. A situation that is worsened by fragmented central government institutions. In particular, the same government institutions are responsible for policy development and articulation like the Department of Civil Protection. Hence, the need for adopting a broader DRR approach as proposed in this thesis.

Fundamentally, if the central and local government structures are not well streamlined, duplicity increases and eradication of poverty in Zimbabwe will remain a pipe dream. At the same time, people will continue to suffer from predictable and recurrent disasters. United Nations (2014:36) in Zimbabwe's analysis report indicated that: the country was experiencing high and widespread poverty and inequality which is presenting major challenges to the country's economy and people's wellbeing, including the rural, urban and working poor. United Nations (2014:36) further reported that 62.6% of Zimbabwe households are poor, as displayed by the per capita consumption expenditures below the Total Consumption Poverty Line (TCPL). Of these poor households, 76% live in rural areas compared to 38.2% in urban areas. This, therefore, raises policy practice concerns if disaster and development nexus is to be enhanced so that hazards/disasters are mitigated at the same time curtailing the progression of vulnerability. In sum, weak institutions, fragmented policy practice and policy discord contributes to a sluggish development path in Zimbabwe if they are not adequately addressed both structurally and operationally. This is a view openly acknowledged in Zim Asset (2013).

Disasters normally happen at community level, with the initial response being given at that level before external support. However, a review of the Civil Protection Act Chapter 10:06 makes no mention of community-based disaster management committees. Specifically, the Civil Protection Act and its structures falls short of aligning with Zimbabwe's administrative structure that consists of: households, villages/location/suburb, ward, district, province and central government. This is clear theoretical gap that affects policy practice. In this regard Zimbabwe should consider the framework for disaster risk reduction as proposed through the Hyogo (2005) and Sendai (2015) Frameworks for Disaster Risk Reduction.

Theoretically, the recent Sendai Framework for Disaster Risk reduction (2015 -2030) is pillared on four priorities that build that take into account of the experience gained through the implementation of the Hyogo Framework for Action (2005-2015). The four priorities for Sendai Framework for DRR are: understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in disaster risk reduction for resilience; and enhancing disaster preparedness for effective response, and to 'Build Back Better' in recovery, rehabilitation and reconstruction.

As earlier alluded, the Civil Protection Act Chapter 10:06 is not crafted in any way close to these key priorities besides Zimbabwe appending its

signature on the Sendai Declaration of 2015. On a positive note, Zim Asset (2013) acknowledges the importance of resilience building and sustainable development as means to end poverty and vulnerability.

In as much as agreements and commitments to disaster risk reduction have been made at global, continental, sub-regional levels, Zimbabwe still falls short of vigorously pursuing disaster risk reduction agenda compared to sister countries in the SADC region that have aligned their disaster management legal frameworks to global and regional standards. Masamvu (2011) concurs with the above observation by highlighting that countries like Botswana, Mozambique, Lesotho, Namibia and Swaziland had aligned their policies to include disaster risk reduction as core, while South Africa had gone a step further to decentralize disaster risk reduction to local administrative levels. It is those underlying passive factors or resistance to the noble disaster risk reduction that require in-depth scholarly analysis in Zimbabwe to mitigate a casual or cosmetic approach to disasters and development.

Notably, Africa Platform for Disaster Risk Reduction in February 2013 reaffirmed the need for increased awareness on Disaster Risk Reduction; however, the awareness still needs to be fully translated into pragmatic

steps and action by commitment of human, technical, institutional, political and financial resources. Zimbabwe is not spared from the need to translate the increased disaster risk reduction into practical actions, hence the significance of this study in illuminating those areas that still require a paradigm shift toward enhancing disasters and development nexus.

A review of disaster and development policies in Zimbabwe reveals some progress on the achievement of MDGs, in particular MDG six on combating HIV and AIDS, Malaria and other diseases and MDG two on universal primary education (Zim Asset, 2013). This was a step forward considering that Buhera, Muzarabani and other parts in Zimbabwe are endemic to Malaria and a host of other diseases. Harare is not spared as it was affected heavily with cholera and typhoid out breaks in 2008/9 and 2014 according to the findings of this study. However, the aforementioned achievements cannot be celebrated because of limited achievement in six other MDGs that looked at poverty eradication, gender equality, child mortality reduction, mental health, environmental sustainability and global development partnerships.

The growing body of development literature has demonstrated that ‘development’ should be holistic in nature, with growth and development

aiming at improvement in peoples living conditions. The breakdown of key social services and social safety nets like healthcare, nutrition, water supply, sanitation provision, ecosystems management and shelter provision can easily trigger hazards coupled with vulnerability to progress into disasters, on the backdrop of weak capabilities and resilience.

Zimbabwean Government in its Zim Asset (2013) publication openly admitted the existence of poor sanitation, high levels of pollution affecting urban drinking water as well as the dysfunctionality of equipment as well as institutional capacity challenges in urban areas. Zim Asset (2013:7) further postulated social protection programmes, particularly health, had suffered heavily in the years 2000 – 2013 therefore adversely affecting the welfare of the poor, orphans and vulnerable children. Resultantly, Zimbabwe suffered a major cholera outbreak in 2008/2009 claiming 4,288 lives when health and social services had broken down (WHO and Ministry of Health and Child Welfare 2009). Once vulnerability is high, as espoused by post-conventional disaster literature scholars, there are high chances of sliding into a disaster. In such cases, the disasters and development linkages are reinforced even in situations where economic growth is thriving.

Further, the findings from policy analysis and evaluation confirmed earlier findings reached through fieldwork. For example, Zim Asset (2013:8)

reiterates that: “Despite Zimbabwe being endowed with abundant natural resources, country continue to face multiple environmental management challenges include pollution, poor waste management, deforestation and land degradation, veldt fires, poaching and biodiversity loss”. These aspects are expected to be addressed through the enforcement of the Environmental Management Act Chapter 20:27 and its related policies.

Besides the notable outbreaks of Cholera in 2008/9 and typhoid in 2014, the Ministry responsible for executing the Public Health Act was commended by respondents for championing health for all and regularly communicating policy statements at all levels. A further review of policies indicated that the Public Health Act was due for a review during the period 2013 – 2018 in line with the outputs set in the cluster section of Zim Asset (2013). In doing so, the Public Health Act keeps abreast with national, regional and global trends in the field of health in implementing its key social services function. On another note, besides the fragmented nature of policies, the Zim Asset (2013) policy framework should be commended for taking an introspective approach and moving forward to bring together various ministries and departments to work towards achievement of qualitative and quantitative outputs. However, resourcing the set goals and

outputs remain an obstacle for the country due to the economic challenges experienced from 2000 – 2016.

A detailed analytical comparison of the Public Health Act, Zimbabwe National Occupational Safety and Health Policy (2014), Environmental Management, EMA Statutory Instrument 10 of 2007, Zim Assest, the Forest Act Chapter 19:05, and the Water Act Chapter 20:24 shows that they are more detailed and focus on operational issues as compared to the Civil Protection Act Chapter 10:06 that narrowly focuses on structures and functions of those structures. The implications of this are that a policy that lacks details is challenging to interpret and operationalize. The deliberate focus on structural and functions of the structures as enshrined in the Civil Protection Act leave a lot of gaps in the policy, thus subjecting it to multiple unsynchronised interpretations that results in policy and practice mismatch. This confirms the earlier findings from respondents that the Civil Protection Act requires a complete and a thorough review to meet the benchmarks expected of a Disaster Risk Management (DRM) or Disaster Management (DM) policy of a nation that cover a range of disaster risk management aspects. For instance, emergency response preparedness (hazard, risk and vulnerability analysis), vulnerability and capacity analysis. Likewise, DM policies that embrace resilience building, early warning and triggers,

contingency and preparedness planning, disaster risk reduction, response, recovery, rehabilitation (Building, Back, Better), as well as other micro-level disaster continuums.

Going forward, Zimbabwe has the potential implement policies that can reverse vulnerability and eradicate poverty because of its high levels of literacy that results in policy craft literacy. Likewise, development gains can be scored if disaster mitigation is viewed in unison with development. To achieve this, a comprehensive disaster risk reduction approach is required by first challenging the public service compartmentalization and silo planning. Hence, DRR offers an opportunity for delivering as one. Pursuant, to this, Zimbabwe should capitalize on global frameworks like SDGs and Sendai DRR frameworks running in parallel from 2015 – 2030.

6.5 POLICY REFLECTIONS, RECOMMENDATIONS AND CONCLUSION

Generally, an analysis of Zim Asset (2013) cluster logframe sections revealed that key policy documents in Zimbabwe a macro-based. Hence, they lack the grass root realities leading to a more top-bottom approach. Equally, other development and disaster management policies reviewed for the purposes of this study revealed the same in the context of Zimbabwe. This is amplified by Zimbabwe's administrative structures and policy

practice which require a paradigm shift to consider horizontal, vertical bottom-up and top-down policy development and implementation. This will enhance sustainability through increased buy-in and enhanced craft competency at all levels. The findings in this study revealed that policy practice in Zimbabwe is heavily fragmented, leading to incoherent policy implementation. This results in increased vulnerability to even predictable and recurrent disasters and erosion of development gains that affect sustainable development. Evidently, the study found out that disasters and development have a strong nexus in both theoretical and practical perspectives. This confirms the study hypothesis which argued that: disasters and development are correlated, as disasters can both destroy development initiatives and create development opportunities and that development schemes can both increase and decrease vulnerability. Furthermore, instead of viewing disasters negatively, the study findings confirmed that development gains and opportunities are congealed within disasters. Hence, the two variables should be viewed as union friends that can both interact theoretically and pragmatically through disaster risk reduction in curtailing incubation of hazards into disasters; likewise, mitigating the progression of vulnerability and promoting achievement of sustainable development goals.

In the final analysis, the study findings identified key factors that can influence or hinder the disaster mitigation and development synergies. These can be summarized as political, governance, economic, social (cultural, religious, perceptions and attitudes/behaviours), environmental and technological. These factors get entangled into incoherent and fragmented policies and practice, coupled with a reactive rather than a proactive culture in both disaster management and development conceptualization and practices. Similarly, weak enforcement of policies, theorizing too much, weak governance and lack of political will weigh in significantly as factors that can also influence or hinder disaster management and development linkages. Likewise, haphazard prioritization of issues and how they affect the populace were also cited in the responses as hindering the achievement of disaster mitigation and development in Zimbabwe.

It is worth noting that the study reveals that Zimbabwe is prone to multiple recurrent and predictable hazards that can be prevented or mitigated through DRR before incubating into disasters. However, the study found that there is little evidence to point to a serious investment in the areas of DRR. Henceforth, vulnerability increases as resilience weakens. In this regard, DRR, therefore, offers a pragmatic approach to disaster mitigation,

vulnerability reduction, sustainable development, enhancing capabilities for resilience and promotion of ecological modernization.

Furthermore, the study found out that there is high environmental degradation (erosion, sedimentation and siltation), environmental pollution through toxic waste and other pollutants including fossil fuels. Most of these are a result of modernization (mechanization/industrialization) or development without a concern for the future, hence compromising on sustainable development and ecological health of the ecosystems. The study reveals that there is little evidence on environmental reclamation, gulley reclamation, conservation farming and tree growing/care. Policy discord and fragmentation make enforcement of environmental management weak, coupled with little financial investment in the same area. For these reasons, community involvement is paramount if sustainable development goals are to be achieved.

Grounded on a thorough analysis of this disasters and development nexus study findings, the following recommendations offer the way forward in addressing key issues, challenges, gaps, hindrances identified and opportunities in promoting sustainable development and disaster management holistically. Henceforth, the following recommendations are

put forward for consideration by policy makers, public/local authorities, humanitarian and development actors (NGOs, International Organizations and donors), the academia, the corporate world and the community.

In particular, the overarching recommendation for this study is for adoption of a disaster risk reduction theoretical framework in cementing the disasters and development linkages theoretically and pragmatically. Consideration can be taken from a neo-Stephenson perspective proposed in Chapter three of this study which is further strengthened by benefits of DRR as alluded to in the study findings. In addition to the aforementioned, the nexus for disasters and development get aligned in tandem with global frameworks like Sendai 2015 – 2030 DRR framework and the Sustainable Development Goals (SDGs) 2015 – 2030. Indeed, Zimbabwe is signatory to these global frameworks although research findings revealed little evidence of these frameworks being cascaded at all levels in the country.

Additionally, investing in ecosystems Disaster Risk Reduction (DRR), environmental management and climate change adaptation should be considered at all levels. This can be enhanced through participatory vulnerability, capacity and adaptation assessments in both rural and urban areas in a bid to reverse Zimbabwe's high risk index to lower levels and promote human development. In this way, a sustainable development

culture is promoted which mitigates against the effects of disasters. One way of achieving this is by giving incentives to communities that promote disaster risk reduction through rates and tax concessions. Similar incentives could be applied to companies that mitigate environmental degradation and population or invest in disaster risk reduction programmes in both rural and urban communities.

Consideration can be given to tree growing and care programmes, environmental conservation and reclamation, conservation farming, water harvesting, ecotourism and enforcement of policies that limit the use of fossils fuels and advocate for renewable energy sources like solar and wind. The Science Technology Engineering and Mathematics (STEM) policy introduced in 2015 can be utilized to promote scientific innovations in the areas of renewable and sustainable energy solution such as solar farming, development of solar-powered products, manufacturing of solar geysers locally and other solar-based products. Equally, education curriculum should not be theory based, but students should be encouraged to undertake practical action research in the fields of disaster management and development. This is in addition to catching them young through disaster risk management education at primary, secondary and tertiary levels.

Consider investing in a culture of recycling and end-of-cycle waste management culture in both rural and urban areas. This may include the use of biodegradable materials in packaging and converting left over food, plants, fruits and vegetable garbage into manure. Local authorities in urban areas should collect garbage religiously; likewise, convert it into manure or bioenergy and recycle other materials like plastics, tins and metals.

Develop comprehensive disaster management and development policy frameworks that foster complementarities and reduce the 'silo planning mentality' among public authorities. This should be supported by practice where policies are enforced and institutions are resourced adequately to facilitate community-based disaster management and development. Thus, visionary thinking of future generations by not haphazardly developing and implementing policies.

Generally, the study sought to analyse the disasters and development correlation in theoretical and practical perspectives. This was premised on the notion that these fields have been traditionally viewed as antagonistic because of disasters being associated with vulnerability and untold suffering while the development opportunities that are associated with

disasters tend to be ignored. To achieve the principal objective, the study analyzed the existing theoretical and practical gaps between disasters and development in Zimbabwe. Furthermore, factors that affect achievement of disaster mitigation and development linkages in Zimbabwe were critically examined. Subsequently, the disaster and development linkages were conceptualized in Chapter two.

An equally significant aspect of this study is that it does not only confirm authoritative scholarship of Stephenson's disasters and development theoretical linkages. A notion also further postulated by a number of development and disaster management studies. Instead, this study goes further to propose a theory of disasters and development nexus management anchored on disaster risk reduction theoretical framework. Generally, the nested relationship between disasters and development are reinforced with the use of multiple disaster risk reduction strategies to mitigate vulnerability in both rural and urban areas. Contextually and pragmatically, it is rhetoric to say 'a disaster-free-world' can be achieved due to the changing nature of hazards. Hence, if disasters are not mitigated, human capabilities and resilience increased and sustainable development promoted, the result is rapid progression of vulnerability that swims in realms of poverty and underdevelopment.

Notably, disasters and development affect both rural and urban areas, their lives, livelihoods and their environment. Undoubtedly, the use of mixed methods in this study is justified because of their superior and scholarly rich strengths that include complementarities of approaches, the dialectical position and pragmatism. Further, the mixed methodology allowed for triangulation of disaster management and development issues in Zimbabwe in rural, peri-urban and urban areas. The use of a multiple methodological approach in data collection allowed for further validation of the results and enhancing reliability on the study findings. The disasters and development nexus is inter-sectoral, multi-disciplinary and trans-disciplinary in nature, cutting across many fields within the social sciences terrain. Therefore, unpacking of these two fields required employing multifaceted research methodology approaches in data collection, data coding and analysis. Hence, this study opted for the mixed methods approach from conceptualization throughout the research process so as to capitalize on the strengths entrenched in both qualitative and quantitative approaches. Drawing on a mixed methodology approach, this study approached the variables from multiple dimensions since disasters and development are intertwined. This is despite the myth that views development and disasters as diametrically divorced.

The case-study conceptualization can be traced from the study, including its variables, problem/sub-problems, multi-facetted Disaster Risk Reduction (DRR) approach, coupled with the use of in-depth interviews, focus group discussions (FGDs), documents review, field visits and observations in data collection, coding and analysis. Similarly, a deliberate, non-probability combination or mixed purposive sampling technique was employed in this study which has its roots entrenched in the qualitative paradigm. Quantitative methodology was applied in the use of questionnaires particularly in Buhera and Harare through deductive quantification of variables, trends, tabular information and graphics by examining relationships mathematically (using statistics). The data was presented qualitatively and quantitatively supported by discussion that sought not only to establish disaster and development linkages but instead looked at the impact of these two fields on vulnerable and poor people. Likewise, the study thoroughly analyzed the factors that hinder or influence disasters and development correlation in rural, peri-urban and urban settings.

The study concludes by critically and analytically evaluating the disaster and development policy practice in Zimbabwe. Significantly, this study has been able to substantially contribute knowledge in the development studies field.

Furthermore, the study triggers the academia, public authorities, policy makers, the corporate, NGOs, donors, Disaster and Development actors or practitioners, local authorities, communities and individuals to rethink their views on disaster and development so as to invest in practical DRR initiatives and research that unpacks the synergies. Hence, the study recommends the adoption of a Disaster Risk Reduction theoretical framework in cementing the disasters and development linkages theoretically and pragmatically. DRR enhances community's resilience capacity in curtailing the progression of vulnerability and mitigate the accelerated incubation of disasters that impacts on development strides. Therefore, community-based disaster risk reduction and disaster management is recommended particularly for the rural people so as to enhance community resilience and promote sustainable development. The study, therefore, concludes by noting the need for future comparative analysis research on disasters and development linkages in developing and developed countries.

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Appendix A

University of Fort Hare
Together in Excellence

Research Interview Guide

I am Gift Chatora, a Zimbabwean PhD student registered in the Development Studies Department at the **University of Fort Hare** (South Africa). I am carrying out a research entitled: "Disasters and Development – Theory and Practice: A Case for Zimbabwe". The research focuses on how disasters erode development gains and explores the disasters and development nexus, while examining Disaster Risk Reduction measures that can be used to mitigate the risks and the progression of vulnerability gearing towards sustainable development. The study focuses on case studies drawn from Buhera (rural setting), Centenary-Muzarabani (peri-urban setting) and Harare (urban setting). Your informed consent and open feedback is highly appreciated. As the researcher, I will ensure confidentiality of information provided, allowing data to be anonymous, taking into account the customs, standards, norms and values as well the cultural issues of the sampled population.

Demographic Details and General Information

Area	Buhera		Centenary- Muzarabani		Harare	
Ward/Village/Suburb						

What is your age?

Below 20 Years	**21 – 30 Years**	**31 – 40 years**	**41 – 50 years**	**Above 50 years**

Gender: Male □ Female □

Professional/Organizational Background

Respondent Background	**CBO NGO Worker**	**UN & International**	**Public /Local Authorities & Civil Service**	**Academia**	**Community leader**	**Community member**	**Other (Specify)**
Please tick **√**							

Your highest level of educational attainment is.... Secondary Education □ Certificate□

Diploma □ Bachelors Degree□ Honours Degree □ Master's Degree□ Doctorate □

Other (Specify).....

Any other Interview Profile Information

……

SECTION A: Disasters and Development Nexus

1. In your view what is a **disaster**? ..... and how different is it from a **hazard**?.....
2. Which disasters/hazards commonly and frequently affect your area?

   .....

3. With a particular focus on your area (Buhera or Centenary-Muzarabani or Harare), what time of the year do you normally experience the disasters/hazards you have identified above? *(Interviewer guide below)*

Disasters/Hazards	Time of the year (January – December) Place an **X** in the appropriate month or months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Floods												
Drought												
Cholera												
Typhoid												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												
Pest infestation												
Locust infestation												
Others (please specify)												

4. What are the root causes of these disasters?

.....

Which ones will you rate as the worst three disasters that affected your area in the past 35 years? a)..... *when*?..... b)..... *when*?..... c)..... *when*?.....

Why do you consider them to be the worst? .....

5. Which areas/locations are normally worst affected when the disasters occur and why?

   .....

6. Who is normally worst affected and why? (*Continue probing using why, why, why?)*

   .....

   .....

7. Which spheres/areas of daily life are worst affected by the disasters you just mentioned and how?

   .....

8. When the disasters happen, how spread is the impact and why? *(Interviewer to probe, why, why, why? Focusing on)* (Human, Economic, Infrastructure, Communication, Environment and Development)

   .....

   .....

9. Based on your knowledge and assessment, what is the likelihood of occurrence of the disasters or hazards identified as frequently and severely affecting your area?

Rate your **Likelihood** using a scale of 1 – 5 (very unlikely = 1, unlikely =2, moderate likely = 3, likely = 4 and very likely = 5)

Disasters/Hazards	**Likelihood** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Floods															
Drought															
Cholera															
Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

10. Using the same disasters/hazards identified as stated above, what will be the scale of impact in the event of occurrence in your area? Rate your **Impact in the table below** using a scale of 1 – 5 (Negligible = 1, Minor =2, Moderate = 3, Severe = 4 and Critical = 5)

Disasters/Hazards	**Impact** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Floods															
Drought															
Cholera															
Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

11. What are the perceptions of people on disasters (Positive or Negative) Why?

.....

.....

12. What is your understating of **Development**?

.....

13. Some people say, "Disasters erode development gains and cause untold suffering on vulnerable people". To what extent do you agree or disagree with this statement? (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

14. Why do you think disasters cause untold suffering on human beings?

.....

.....

15. In your opinion, what is the impact of disasters on human life in your community?

.....

16. In your view, do disasters erode development gain? **Yes** □**No** □**I don't know** □

How?.....

.....

17. Why are disasters viewed negatively if development gains are congealed/firm within disasters?

.....

.....

.....

18. Disasters and Development are strongly linked or correlated although disasters have negative impact in some cases. What are your views on this statement?

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

Please explain the disaster and development linkages:

.....

.....

.....

19. If disasters and development are not linked, kindly explain areas of variance.

    .....

    .....

    .....

20. For the disasters that have occurred in your area (Buhera or Centenary-Muzarabani or Harare), how do you rate their impact on development?

Very Severe		Severe		Moderately Severe		Low		Very Low	
10	9	8	7	6	5	4	3	2	1

21. What is the justification for your severity rating (disaster impact) above on development?

    a) .....

    b) .....

    c) .....

    d) .....

    e) .....

22. Currently, are there local mitigation strategies to mitigate impact on development?

    Yes□ **No**□ If Yes, give examples:

    .....

23. If disasters erode development gains, what type of mitigation measures would you propose against the worst and severe disasters that have affected your area?

Disaster/Hazard Typology	Proposed mitigation strategies

24. In your view, would you say "Disasters are local and is it the same for Development"? **Yes** □ **No**□ Please explain.

.....

.....

.....

.....

25. Based on your understanding of disasters and development to what extent do you agree or disagree with the following statements in relation to the disasters and development linkages.

Disasters and Development elements	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disasters set back development programmes by destroying years of development initiatives.										
Rebuilding after a disaster provides significant opportunities to initiate development programmes.										
Development programmes can increase an area's vulnerability to disasters.										
Development programmes can be designed to reduce vulnerability to disasters and their negative consequences.										
Disaster Risk Reduction (DRR) strategies mitigate disasters and reduces progression of vulnerability – "Pressure & Release Model".										
DRR promotes increased capabilities and community resilience to withstand disaster shocks.										
Adopting and implementing a robust Disaster Risk Reduction (DRR) approach mitigates disaster impacts and promote sustainable development.										

DRR Framework is holistic (inter-sectoral or multi-sectoral or multidisciplinary or trans-disciplinary) and bridges the disasters and development divide.										
DRR is a unifying framework for disasters and development correlation, theory and practice.										
DRR strategies allows for translation of theory (policies) into practice, thereby reducing exposure to disasters and sustaining development.										
Poverty alleviation, development and DRR are highly correlated.										
Blending disasters and development with DRR provides for the use of composite eclectic strategies for hazard assessments, vulnerability and risk analysis, disaster mitigation, enhancing community resilience and poverty reduction.										
Investing in Disaster Risk Reduction yields social, economic and environmental benefits.										
DRR involves a range of actors drawn from local communities, local/public authorities, government, NGOs, the Academia, donors, regional/international organizations and private sector.										
Unsound development policies increase the risk of disasters.										
A rhetoric approach on theory (policies) and practice increases the risk of disasters and vulnerability, and affects sustainable development.										
Central and Local Policies on disasters and development should be broad-based to include DRR.										
Disasters Management and Development policies should be pragmatically implemented by allocating adequate resources to mitigate disasters.										

Disaster and development nexus can be demystified by exploring complementarities that promote sustainable development, poverty reduction and well managed ecosystems.										

SECTION B: Disasters and Development – Theory and Practice

26. In your view, are the current **disaster management policies** adequate to mitigate disasters? **Yes**□ **No** □ Explain why?

    .....

27. Would you say **development policies** facilitate mitigation of disasters and promote sustainable development in Zimbabwe? **Yes** □ **No** □ Explain why?

    .....

28. Identify some of the theoretical and practical gaps for disaster mitigation and development linkages in Zimbabwe?

Disasters and Development – Theoretical and Practical Gaps	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Some policies exist but they lack pragmatic implementation.										
The Civil Protection Act Chapter 10:06 Zimbabwe needs a review in line with regional and global standards.										
Disaster management and development policies have weak linkages.										
Joint planning and implementation among Disaster Management Practitioners and Development Planners requires strengthening.										

DRR needs to be integrated into Disaster management policies and cascaded to community levels (ViDCO, Ward, Suburb, workplace)										
Government (central/local), NGOs, International organisations at all levels should take practical steps to invest in DRR.										
DRR should be included in the school curriculum										
Community involvement is less in the areas of disaster management.										
People tend to have a '**reactive**' rather than a '**proactive**' approach to disaster management.										

29. If disaster mitigation and development linkages have theoretical and practical gaps, what do you think needs to be improved or strengthened?

Areas for improvement (examples)	Yes	No	**Why?**
Disaster Management Policies			
Development Policies			
Disaster Risk Mitigation			
Integrating DRR into development planning			
Local level disaster management structures			
National level disaster management structures			
Local and central level development committees/structures			

30. In your view, what are some of the practical steps that can be taken to strengthen the theoretical and practical linkages for Disaster mitigation and Development in Zimbabwe?

    a) .....

    b) .....

    c) .....

    d) .....

e) .....

SECTION C: Factors that Affect/Influence Disaster Mitigation and Development Linkages

31. What factors hinder the achievements of Disaster Mitigation and Development linkages in Zimbabwe?

    a) .....

    b) .....

    c) .....

    d) .....

    e) .....

32. If you were to rate the Disaster Mitigation and Development linkages in Zimbabwe, would you say they are ....

Very Progressive		Progressive		Slowly progressing		Stagnant	
Any comments:							

33. To what extent would you agree or disagree that: political, social, economic, technological and environmental are the common and broad macro-level factors that influence disaster mitigation and development linkages in both theory and practice. (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

34. Are there other factors you would like to suggest that influence disaster mitigation and development linkages in Zimbabwe? .....

35. Given the choice, how would you rate the following as some of the contributing factors that influence disaster mitigation and development linkages in Zimbabwe?

Factors that Influence Disaster Mitigation and Development Linkages – Theoretically and Practically in Zimbabwe	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disaster Management policies that are not cascaded to community levels										
Inadequate policy framework for disaster mitigation and development.										
Limited translation of policies into practice.										
Disaster Management and Development practitioners 'Silo planning'.										
DRR less considered as an integral part of Development Planning.										
DRR being given less priority in the school curriculum.										
Inadequate resource allocation to DRR and Environmental Management.										
Increased population concentration in hazard prone areas.										
Social destitution and social injustice that may increase poverty.										
Unprepared populations and institutions leading to a '**reactive**' rather than '**proactive**' culture to disasters at all levels.										
Community's negative view on disasters as eroding development gains.										
Environmental degradation and indiscriminate cutting down of trees.										
High toxic waste and pollution into the environment.										
Hazard, risk, vulnerability and capacity assessment & analysis not being prioritized – thereby increasing vulnerability to disasters.										
Community-based approaches limitedly weak to maximize on Disaster Mitigation and Development linkages.										
DRR strategies and indigenous knowledge systems not strongly linked.										

36. What can be done to improve theoretical and practical linkages on disaster mitigation and development in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

Any other General Comments on Disasters and Development – Theory and Practice?

.....

.....

.....

.....

Thank you for your time and cooperation

Appendix B

University of Fort Hare
Together in Excellence

Research Focus Group Discussion (FGD) Guide

I am Gift Chatora, a Zimbabwean PhD student registered in the Development Studies Department at the **University of Fort Hare** (South Africa). I am carrying out a research entitled: "Disasters and Development – Theory and Practice: A Case for Zimbabwe". The research focuses on how disasters erode development gains and explores the disasters and development nexus, while examining Disaster Risk Reduction measures that can be used to mitigate the risks and the progression of vulnerability gearing towards sustainable development. The study focuses on case studies drawn from Buhera (rural setting), Centenary-Muzarabani (peri-urban setting) and Harare (urban setting). Your informed consent and open feedback is highly appreciated. As the researcher, I will ensure confidentiality of information provided, allowing data to be anonymous, taking into account the customs, standards, norms and values as well the cultural issues of the sampled population.

Demographic Details and General Information

Area	Buhera		Centenary-Muzarabani		Harare	
Ward/Village/Suburb						

Venue/Location of Focus Group Discussion …….....

Target Focus Group Discussion Participants:

Target FGD Participants	Women	Men	Girls	Boys	Mixed (Specify) ……
Number of Participants					

Age Range

Below 20 Years		**21 – 30 Years**		**31 – 40 years**		**41 – 50 years**		**Above 50 years**	

Professional/Organizational Background

Respondent Background	**CBO NGO Workers**	**UN & International**	**Public /Local Authorities & Civil Service**	**Academia**	**Community leaders**	**Community members**	**Other (Specify)**
Please tick **√**							

Highest level of educational attainment is.... Secondary Education □ Certificate □ Diploma □

Bachelor's Degree □ Honours Degree □ Master's Degree □ Doctorate □ other (Specify).....

Any other Focus Group Discussion Profile Information

……

SECTION A: Disasters and Development Nexus

1. In your view what is a **disaster**? ..... and how

   different is it from a **hazard**?.....

2. Which disasters/hazards commonly and frequently affect your area?

.....

.....

3. With a particular focus on your area (Buhera or Centenary-Muzarabani or Harare), what time of the year do you normally experience the disasters/hazards you have identified above? *(Interviewer guide below)*

Disasters/Hazards	Time of the year (January – December) Place an **X** in the appropriate month or months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Floods												
Drought												
Cholera												
Typhoid												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												
Pest infestation												
Locust infestation												
Others (please specify)												

4. What are the root causes of these disasters?

.....

.....

Which ones will you rate as the worst three disasters that affected your area in the past 35 years? a)..... *when*?..... b)..... *when*?..... c) ..... *when*?.....

Why do you consider them to be the worst?.....

5. Which areas/locations are normally worst affected when the disasters occur and why?

   .....

   .....

6. Who is normally worst affected and why? (Continue probing using why, why, why?)

   .....

   .....

7. Which spheres/areas of daily life are worst affected by the disasters you just mentioned and how?

   .....

8. When the disasters happen, how spread out is the impact and why? *(Interviewer to probe, why, why, why? Focusing on)* (Human, Economic, Infrastructure, Communication, Environment and Development)

   .....

9. Based on your knowledge and assessment, what is the likelihood of occurrence of the disasters or hazards identified as frequently and severely affecting your area? Rate your **Likelihood** using a scale of 1 – 5 (very unlikely = 1, unlikely =2, moderate likely = 3, likely = 4 and very likely = 5)

Disasters/Hazards	**Likelihood** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Floods															
Drought															
Cholera															
Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

10. Using the same disasters/hazards identified as state above. What will be the scale of impact in the event of occurrence in your area? Rate your **Impact in the table below** using a scale of 1 – 5 (Negligible = 1, Minor =2, Moderate = 3, Severe = 4 and Critical = 5)

Disasters/Hazards	**Impact** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Floods															

Drought															
Cholera															
Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

11. What are the perceptions of people on disasters (Positive or Negative) Why?

.....

.....

12. What is your understanding of **development**?.....

13. Some people say, "Disasters erode development gains and cause untold suffering on vulnerable people". To what extent do you agree or disagree with this statement? (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

14. Why do you think disasters cause untold suffering on human beings?

    .....

    .....

15. In your opinion, what is the impact of disasters on human life in your community?

    .....

16. In your view, do disasters erode development gain? **Yes** □**No** □**I don't know** □

    How?.....

    .....

    .....

17. Why are disasters viewed negatively if development gains are congealed/firm within disasters?

.....

.....

.....

.....

18. Disasters and Development are strongly linked or correlated, though disasters are viewed negatively in some cases. What are your views on this statement?

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

Please explain the disaster and development linkages:

.....

.....

.....

19. If disasters and development are not linked, kindly explain areas of variance.

    .....

20. Regarding disasters that have occurred in your area (Buhera or Centenary-Muzarabani or Harare), how do you rate their impact on development?

Very Severe		Severe		Moderately Severe		Low		Very Low	
10	9	8	7	6	5	4	3	2	1

21. What is the justification for your severity rating (disaster impact) above on development?

    a) .....

    b) .....

    c) .....

    d) .....

    e) .....

22. Currently, are there local mitigation strategies to mitigate impact on development?

    Yes□ **No**□ If Yes, give examples:

    .....

23. If disasters erode development gains, what type of mitigation measures would you propose against the worst and severe disasters that have affected your area?

Disaster/Hazard Typology	Proposed mitigation strategies

24. In your view, would you say "Disasters are local and is it the same for Development"? **Yes** □ **No** □ Please explain.

.....

.....

.....

.....

25. Based on your understanding of disasters and development, to what extent do you agree or disagree with the following statements in relation to the disasters and development linkages.

Disasters and Development elements	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disasters set back development programmes by destroying years of development initiatives.										
Rebuilding after a disaster provides significant opportunities to initiate development programmes.										
Development programmes can increase an area's vulnerability to disasters.										
Development programmes can be designed to reduce vulnerability to disasters and their negative consequences.										
Disaster Risk Reduction (DRR) strategies mitigate disasters and reduces progression of vulnerability – "Pressure & Release Model".										
DRR promotes increased capabilities and community resilience to withstand disaster shocks.										
Adopting and implementing a robust Disaster Risk Reduction (DRR) approach mitigates disaster impacts and promote sustainable development.										

DRR Framework is holistic (inter-sectoral or multi-sectoral or multidisciplinary or trans-disciplinary) and bridges the disasters and development divide.										
DRR is a unifying framework for disasters and development correlation, theory and practice.										
DRR strategies allows for translation of theory (policies) into practice, thereby reducing exposure to disasters and sustaining development.										
Poverty alleviation, development and DRR are highly correlated.										
Blending disasters and development with DRR provides for the use of composite eclectic strategies for hazard assessments, vulnerability and risk analysis, disaster mitigation, enhancing community resilience and poverty reduction.										
Investing in Disaster Risk Reduction yields social, economic and environmental benefits.										
DRR involves a range of actors drawn from local communities, local/public authorities, government, NGOs, the Academia, donors, regional/international organizations and private sector.										
Unsound development policies increase the risk of disasters.										
A rhetoric approach on theory (policies) and practice increases the risk of disasters and vulnerability, and affects sustainable development.										
Central and Local Policies on disasters and development should be broad-based to include DRR.										

Disasters Management and Development policies should be pragmatically implemented by allocating adequate resources to mitigate disasters.										
Disaster and development nexus can be demystified by exploring complementarities that promote sustainable development, poverty reduction and well managed ecosystems.										

SECTION B: Disasters and Development – Theory and Practice

26. In your view, are the current **disaster management policies** adequate to mitigate disasters? **Yes**□ **No** □ Explain why?

    .....

27. Would you say **development policies** facilitate mitigation of disasters and promote sustainable development in Zimbabwe? **Yes** □ **No** □ Explain why?

    .....

28. Identify some of the theoretical and practical gaps for disaster mitigation and development linkages in Zimbabwe?

Disasters and Development – Theoretical and Practical Gaps	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Some policies exist but they lack pragmatic implementation.										
The Civil Protection Act Chapter 10:06 Zimbabwe needs a review in line with regional and global standards.										
Disaster management and development policies have weak linkages.										

Joint planning and implementation among Disaster Management Practitioners and Development Planners requires strengthening.										
DRR needs to be integrated into Disaster management policies and cascaded to community levels (ViDCO, Ward, Suburb, workplace)										
Government (central/local), NGOs, International organisations at all levels should take practical steps to invest in DRR.										
DRR should be included in the school curriculum										
Community involvement is less in the areas of disaster management.										
People tend to have a '**reactive**' rather than a '**proactive**' approach to disaster management.										

29. If disaster mitigation and development linkages have theoretical and practical gaps, what do you think needs to be improved or strengthened?

Areas for improvement (examples)	Yes	No	**Why?**
Disaster Management Policies			
Development Policies			
Disaster Risk Mitigation			
Integrating DRR into development planning			
Local level disaster management structures			
National level disaster management structures			
Local and central level development committees/structures			

In your view, what are some of the practical steps that can be taken to strengthen the theoretical and practical linkages for Disaster Mitigation and Development in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

SECTION C: Factors that Affect/Influence Disaster Mitigation and Development Linkages

30. What factors hinder the achievements of Disaster Mitigation and Development linkages in Zimbabwe?

    a) .....

    b) .....

    c) .....

    d) .....

    e) .....

31. If you were to rate the Disaster Mitigation and Development linkages in Zimbabwe, would you say they are ....

Very Progressive		Progressive		Slowly progressing		Stagnant	
Any comments							

32. To what extent would you agree or disagree that; political, social, economic, technological and environmental are the common and broad macro-level factors that influence disaster mitigation and development linkages in both theory and practice. (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

33. Are there other factors you would like to suggest that influence disaster mitigation and development linkages in Zimbabwe?.....

34. Given the choice, how would you rate the following as some of the contributing factors that influence disaster mitigation and development linkages in Zimbabwe?

Factors that Influence Disaster Mitigation and Development Linkages – Theoretically and Practically in Zimbabwe	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disaster Management policies that are not cascaded to community levels										
Inadequate policy framework for disaster mitigation and development.										
Limited translation of policies into practice.										
Disaster Management and Development practitioners 'Silo planning'.										
DRR less considered as an integral part of Development Planning.										
DRR being given less priority in the school curriculum.										
Inadequate resource allocation to DRR and Environmental Management.										
Increased population concentration in hazard prone areas.										
Social destitution and social injustice that may increase poverty.										
Unprepared populations and institutions leading to a '**reactive**' rather than '**proactive**' culture to disasters at all levels.										
Community's negative view on disasters as eroding development gains.										
Environmental degradation and indiscriminate cutting down of trees.										
High toxic waste and pollution into the environment.										
Hazard, risk, vulnerability and capacity assessment & analysis not being prioritized – thereby increasing vulnerability to disasters.										
Community-based approaches limitedly weak to maximize on Disaster Mitigation and Development linkages.										

DRR strategies and indigenous knowledge systems not strongly linked.										

35. What can be done to improve theoretical and practical linkages on disaster mitigation and development in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

Any other General Comments on Disasters and Development – Theory and Practice

.....

.....

.....

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.....

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.....

Thank you for your time and cooperation

Appendix C

University of Fort Hare
Together in Excellence

Research Questionnaire

I am Gift Chatora a Zimbabwean PhD student in the Development Studies Department at the **University of Fort Hare** (South Africa). I am carrying out a research entitled: "Disasters and Development – Theory and Practice: A Case for Zimbabwe". The research focuses on how disasters erode development gains and explores the disasters and development nexus, while examining Disaster Risk Reduction measures that can be used to mitigate the risks and the progression of vulnerability gearing towards sustainable development. The study focuses on case studies drawn from Buhera (rural setting), Centenary-Muzarabani (peri-urban setting) and Harare (urban setting). Your informed concern and open feedback is highly appreciated. As the researcher I will ensure confidentiality of information provided, allowing data to be anonymous, taking into account the customs, standards, norms and values as well the cultural issues of the sampled population.

Kindly indicate your choice by marking an **X** in the appropriate boxes and writing in the spaces provided.

Your Area	Buhera		Centenary-Muzarabani		Harare	
Ward/Village/Suburb						

SECTION A: Disasters and Development Nexus

1. In your view what is a **disaster**? ..... and how different is it from a **hazard**?.....

2. Which disasters/hazards commonly and frequently affect your area?

Disasters/Hazards	**Place an X if common and frequent in your area**	**How frequent? Place an X in the appropriate box or boxes**		
		Yearly	**Once in 5 years**	**Once in 10 years**
Floods				
Drought				
Cholera				
Typhoid				
Environmental Degradation				
Toxic waste				
Environmental Pollution				
Veld fires				
Storms				
Pest infestation				
Locust infestation				
Others (please specify)				

3. With a particular focus on your area (Buhera or Centenary-Muzarabani or Harare), what time of the year do you normally experience the disasters/hazards you have identified above?

Disasters/Hazards	Time of the year (January – December) Place an **X** in the appropriate month or months											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Floods												
Drought												

Cholera												
Typhoid												
Environmental Degradation												
Toxic waste												
Environmental Pollution												
Veld fires												
Storms												
Pest infestation												
Locust infestation												
Others (please specify)												

4. Based on your knowledge and assessment what is the likelihood of occurrence of the disasters/hazards identified in question 2 above.

   Rate your **Likelihood** using a scale of 1 – 5 (very unlikely = 1, unlikely =2, moderate likely = 3, likely = 4 and very likely = 5)

Disasters/Hazards	**Likelihood** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Floods															
Drought															
Cholera															
Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

5. Using the same disasters/hazards identified in questions 2 and 4 above. What will be the scale of impact in the event of occurrence in your area? Rate your **Impact** using a scale of 1 – 5 (Negligible = 1, Minor =2, Moderate = 3, Severe = 4 and Critical = 5)

Disasters/Hazards	**Impact** rating - Place an **X** in the appropriate rating score on each time scale														
	Yearly					**Once in 5 years**					**Once in 10 years**				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Floods															
Drought															
Cholera															

Typhoid															
Environmental Degradation															
Toxic waste															
Environmental Pollution															
Veld fires															
Storms															
Pest infestation															
Locust infestation															
Others (please specify)															

6. What is your understanding of **Development?**.....

7. It is assumed that Disasters and unmitigated hazards erode development gains and cause untold suffering on vulnerable people. To what extent do you agree or disagree with this statement? (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

8. Why are disasters viewed negatively if development gains are congealed within disasters?

Disasters and Development - Key Assumptions	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disasters are traumatic, increase poverty and vulnerability.										
Disasters weaken local community's resilience and capabilities.										
The widespread physical, human, material, economic and environmental losses caused by disasters remain vivid in people's memories as opposed to the development opportunities that come after disasters.										

Disasters affect the environment (ecosystems).										
The effect of climate change is felt through frequent and intense hydro-meteorological and climatic related disasters.										
Disasters erode development growth and retard development.										
Disasters affect the progression towards sustainable development.										
Recovery from disasters requires external support and may take long.										
Comment:										

9. In your view are Disasters local and is it the same for Development? **Yes** □ **No** □Please explain.

.....

Any other views or comments on why disasters are viewed negatively if development gains are solid or congealed within disasters:

.....

10. In your view would you say disasters erode development gains?

Response	Tick	**Why?**
Yes		.....
No		.....
I don't know		

11. Disasters and Development are strongly linked or correlated, though disasters have negative impact in some cases. What are your views on this statement?

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

Please Explain:

……

……

……

12. For the disasters that have occurred in your area (Buhera or Centenary-Muzarabani or Harare), how do you rate their impact on development?

Very Severe		Severe		Moderately Severe		Low		Very Low	
10	9	8	7	6	5	4	3	2	1

13. Currently are there local mitigation strategies to mitigate impact on development?

    Yes□ **No**□ If Yes, give examples:

    ……

14. What are some of the mitigation strategies you will propose to reduce the impact on development?

Disaster/Hazard Typology	Proposed mitigation strategies

15. Based on your understanding of disasters and development, please rate the following statements in relation to the disasters and development linkages.

Disasters and Development elements	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disasters set back development programmes by destroying years of development initiatives.										
Rebuilding after a disaster provides significant opportunities to initiate development programmes.										
Development programmes can increase an area's vulnerability to disasters.										
Development programmes can be designed to reduce vulnerability to disasters and their negative consequences.										
Disaster Risk Reduction (DRR) strategies mitigate disasters and reduces progression of vulnerability – "Pressure & Release Model".										
DRR promotes increased capabilities and community resilience to withstand disaster shocks.										

Adopting and implementing a robust Disaster Risk Reduction (DRR) approach mitigates disaster impacts and promote sustainable development.										
DRR Framework is holistic (inter-sectoral or multi-sectoral or multidisciplinary or trans-disciplinary) and bridges the disasters and development divide.										
DRR is a unifying framework for disasters and development correlation, theory and practice.										
DRR strategies allows for translation of theory (policies) into practice, thereby reducing exposure to disasters and sustaining development.										
Poverty alleviation, development and DRR are highly correlated.										
Blending disasters and development with DRR provides for the use of composite eclectic strategies for hazard assessments, vulnerability and risk analysis, disaster mitigation, enhancing community resilience and poverty reduction.										
Investing in Disaster Risk Reduction yields social, economic and environmental benefits.										
DRR involves a range of actors drawn from local communities, local/public authorities, government, NGOs, the Academia, donors, regional/international organizations and private sector.										
Unsound development policies increase the risk of disasters.										
A rhetoric approach on theory (policies) and practice increases the risk of disasters and vulnerability, and affects sustainable development.										

Central and Local Policies on disasters and development should be broad-based to include DRR.										
Disasters Management and Development policies should be pragmatically implemented by allocating adequate resources to mitigate disasters.										
Disaster and development nexus can be demystified by exploring complementarities that promote sustainable development, poverty reduction and well managed ecosystems.										

SECTION B: Disasters and Development – Theory and Practice

16. In your view, are the current **disaster management policies** adequate to mitigate disasters?

    Yes□ **No** □ Explain why?.....

17. Would you say **development policies** facilitate mitigation of disasters and promote sustainable development in Zimbabwe? **Yes** □ **No** □ Explain why?

    .....

18. Identify some of the theoretical and practical gaps for disaster mitigation and development linkages in Zimbabwe?

Disasters and Development – Theoretical and Practical Gaps	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Some policies exist but they lack pragmatic implementation.										

The Civil Protection Act Chapter 10:06 Zimbabwe needs a review in line with regional and global standards.										
Disaster management and development policies have weak linkages.										
Joint planning and implementation among Disaster Management Practitioners and Development Planners requires strengthening.										
DRR needs to be integrated into Disaster management policies and cascaded to community levels (ViDCO, Ward, Suburb, workplace)										
Government (central/local), NGOs, International organisations at all levels should take practical steps to invest in DRR.										
DRR should be included in the school curriculum										
Community involvement is less in the areas of disaster management.										
People tend to have a '**reactive**' rather than a '**proactive**' approach to disaster management.										

19. If disaster mitigation and development linkages have theoretically and practical gaps, what do you think needs to be improved or strengthened?

Areas for improvement (examples)	Yes	No	**Why?**
Disaster Management Policies			
Development Policies			
Disaster Risk Mitigation			
Integrating DRR into development planning			
Local level disaster management structures			
National level disaster management structures			
Local and central level development committees/structures			

20. In your view what are some of the practical steps that can be taken to strengthen the theoretical and practical linkages for Disaster mitigation and Development in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

SECTION C: Factors that Affect/Influence Disaster Mitigation and Development Linkages

21. What factors hinder the achievements of Disaster Mitigation and Development linkages in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

22. If you were to rate the Disaster Mitigation and Development linkages in Zimbabwe, would you say they are ....

Very Progressive		Progressive		Slowly progressing		Stagnant	
Any comments:							

23. To what extent would you agree or disagree that; political, social, economic, technological and environmental are the common and broad macro-level factors that influence disaster

mitigation and development linkages in both theory and practice. (Please rate your views on a scale of 10 = strongly agree – 1= strongly disagree).

Strongly agree		Agree		Moderately Agree		Disagree		Strongly Disagree	
10	9	8	7	6	5	4	3	2	1

24. Are there other factors you would like to suggest that influence disaster mitigation and development linkages in Zimbabwe?.....

25. Given the choice, how would you rate the following as some of the contributing factors that may influence disaster mitigation and development linkages in Zimbabwe?

Factors that Influence Disaster Mitigation and Development Linkages – Theoretically and Practically in Zimbabwe	**Strongly agree**		**Agree**		**Moderately Agree**		**Disagree**		**Strongly Disagree**	
	10	9	8	7	6	5	4	3	2	1
Disaster Management policies that are not cascaded to community levels										
Inadequate policy framework for disaster mitigation and development.										
Limited translation of policies into practice.										
Disaster Management and Development practitioners 'Silo planning'.										
DRR less considered as an integral part of Development Planning.										
DRR being given less priority in the school curriculum.										
Inadequate resource allocation to DRR and Environmental Management.										
Increased population concentration in hazard prone areas.										
Social destitution and social injustice that may increase poverty.										
Unprepared populations and institutions leading to a 'reactive' rather than 'proactive' culture to disasters at all levels.										
Community's negative view on disasters as eroding development gains.										
Environmental degradation and indiscriminate cutting down of trees.										
High toxic waste and pollution into the environment.										

Hazard, risk, vulnerability and capacity assessment & analysis not being prioritized – thereby increasing vulnerability to disasters.										
Community-based approaches limitedly weak to maximize on Disaster Mitigation and Development linkages.										
DRR strategies and indigenous knowledge systems not strongly linked.										

26. What can be done to improve theoretical and practical linkages on disaster mitigation and development in Zimbabwe?

a) .....

b) .....

c) .....

d) .....

e) .....

Any other General Comments on Disasters and Development – Theory and Practice

.....

.....

.....

Demographic Details and General Information

What is your age?

Below 20 Years		**21 – 30 Years**		**31 – 40 years**		**41 – 50 years**		**Above 50 years**	

Gender: Male □ Female □

Professional/Organizational Background

Respondent Background	**CBO NGO Worker**	**UN & International**	**Public /Local Authorities & Civil Service**	**Academia**	**Community leader**	**Community member**	**Other (Specify)**
Please tick **√**							

Your highest level of educational attainment is....

Secondary Education □ Certificate □ Diploma □ Bachelor's Degree□ Honours Degree □ Master's Degree □ Doctorate □ other (Specify).....

Thank you for your time and cooperation

Appendix D

University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE

Certificate Reference Number:	RAH0101SCHA01
Project title:	**Disasters and development: theory and practice – a case of Zimbabwe**
Nature of Project:	PhD
Principal Researcher:	Gift Chatora
Supervisor:	Prof A Rahim
Co-supervisor:	

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
  - Any unethical principal or practices are revealed or suspected
  - Relevant information has been withheld or misrepresented
  - Regulatory changes of whatsoever nature so require
  - The conditions contained in the Certificate have not been adhered to

- Request access to any information or data at any time during the course or after completion of the project.

- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely

Professor Gideon de Wet
Dean of Research

18 July 2014

Appendix E

Ministry of Local Government, Public Works and National Housing

Telephone 263 4 793700, 794166, 791470

Fax 263 4 700859

The Office of The Secretary
P. Bag 7755
Causeway,
HARARE
ZIMBABWE

Ref: ADM/23/8

4 July 2014

MIN. OF LOCAL GOVT. PUBLIC WORKS AND NATIONAL HOUSING
HUMAN RESOURCES 3
04 JUL 2014
P. BAG 7706, CAUSEWAY
ZIMBABWE TEL: 04-793700

Mr G Chatora
2487 Bluff hill, Bluff hill
Harare

MR GIFT CHATORA: ID NO: 07-043633X-07: STUDENT: UNIVERSITY OF FORT HARE 9SOUTH AFRICA: REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH

The above subject refers.

I am pleased to inform you that the Head of Ministry has granted your request to carry out a research at Head Office, Urban Local Authorities Department.

Please note that you are to sign an Official Secrecy Act before you commence your research. Information gathered is confidential and should not be divulged to any un-authorised members of the public.

The Ministry will be grateful to receive a copy of the end product.

pp
R.Chimanga
For: Secretary for Local Government, Public Works and National Housing.

Copied: Provincial Administration - Manicaland
District Administrator - Buhera
Provincial Administration -Mashonaland Central
District Administrator -Centenary/Muzarabani
Provincial Administration -Harare Province

Appendix F

MEMORANDUM

TO: The Secretary

FROM: Human Resources

REFERENCE: ADM/23/8/

DATE: 11 June 2014

MR GIFT CHATORA: STUDENT: UNIVERSITY OF FORT HARE (SOUTH AFRICA): REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH

Reference is made to the application made by Mr Chatora a PhD student at the University of Fort Hare (South Africa).

He is seeking authority to carry out a research, on the topic entitled; **"Disasters and Development-Theory and Practice: A Case for Zimbabwe".** The intended research is to be carried out in Buhera, Centenary, Muzarabani and Harare.

Find attached is the member's application. The Ministry would be grateful to receive a copy of the **end product.**

In view of the above, your authority is sought to enable Mr Chatora to carry out his research.

R.Chimanga
Human Resources

Supported
23/06/14

Recommended/Not Recommended

V. R Chiromo
Deputy Director-Human Resources

Date.....11/6/14.....

Recommended/Not Recommended

Signed on front page.

M. S. Pawadyira
Director- Civil Protection

Date.....23-06-14.....

Recommended/~~Not Recommended~~ With effects of climate change wreaking havoc in all parts of the globe, including Zimbabwe there is need to encourage study of Research, including other types of disasters

N. Nkomo
Director- Research

Date.....23/6/14.....

Approved/Not Approved

Col. J. Mhakayakora AOD
Acting Secretary for Local Government, Public Works and National Housing.

Date.....26/6.....

Appendix G

University of Fort Hare
Together in Excellence

The Permanent Secretary

Attention: Director of Human Resources – **Mrs Erica Jones**

Ministry of Local Government, Public Works and National Housing

9th Floor, Makombe Building, Cnr L.Takawira/H.Chitepo Streets

Private Bag CY 7706

Causeway, Harare, Zimbabwe

Dear Mrs Erica Jones,

Ref: Request for Permission to Carry-Out Educational Research in Buhera, Centenary/Muzarabani and Harare Districts

Let me start by introducing myself. I am Gift Chatora a Zimbabwean PhD student in the Development Studies Department at the **University of Fort Hare** (South Africa). I am in the process of carrying out a research entitled: "Disasters and Development – Theory and Practice: A Case for Zimbabwe". The research focuses

on the following three districts that were selected because of their unique settings and exposure to multiple hazards viz;

1) **Buhera District** – Rural Setting with exposure to hydro-meteorological hazards like droughts, climate change effects, and environmental degradation;
2) **Centenary-Muzarabani** – Peri-Urban setting that is vulnerable to recurrent and predictable floods; and
3) **Harare** – Urban setting that is susceptible to epidemics, environmental and technological hazards.

The research focuses on how disasters erode development gains and explores the disasters and development nexus, while examining Disaster Risk Reduction measures that can be used to mitigate the risks and the progression of vulnerability gearing towards sustainable development.

It is against this background that I am requesting your esteemed office as the nodal Ministry responsible for Disaster Management and Local Governance to grant permission to carry out this study in the respective districts where the Civil Protection members are expected to form part of the interviewees/respondents. The findings of this study will be used for scholarly purposes and will be made available to your office and respective districts upon completion.

Attached please find copies of my University student cards and my Zimbabwean identity card. For further verification, feel free to get in touch with my research supervisor: Professor Aminur Rahim, on +27406022105 +27827827448 or email; arahim@ufh.ac.za

Your affirmative consideration of this request is highly appreciated.

Sincerely Yours,

Sincerely Yours,

Gift Chatora (Mr.)
Chatora Family,
P.O. Box HR 8228, Harare
+263772370776 +263733975846 +26342921036
giftchats@yahoo.co.uk or giftchats@gmail.com or 201200376@ufh.ac.za

Appendix H: Professional Editor's Certificate

23 Elfin Glen Road, Nahoon Valley Heights, East London, 5200

Professional EDITORS Group

To whom it may concern:

This document certifies that the PhD thesis whose title appears below has been edited for proper English language, grammar, punctuation, spelling, and overall style by Rose Masha, a member of the Professional Editors' Group whose qualifications are listed in the footer of this certificate.

Title:

DISASTERS AND DEVELOPMENT NEXUS: THEORY AND PRACTICE – A CASE OF ZIMBABWE

Author:

GIFT CHATORA

Date Edited:

28 September 2016

Signed:

Rose Khanyisile Masha

082 770 8892

Bachelor of Library and Information Science, Hons (English Language Teaching), HDE, MA (Hypermedia in Lang. Learning), PhD (Education)