

**Mainstreaming disaster risk reduction in the
policy framework of the education sector: the
case of Dr Kenneth Kaunda District
Municipality, Republic of South Africa**

MC Kaibe



orcid.org/0000-0001-5027-2387

Dissertation accepted in fulfilment of the requirements for the
degree *Master of Science in Environmental Science with Disaster
Risk Science* at the North-West University

Supervisor: Mr LB Shoroma

Co-supervisor: Dr LD NemaKonde

Graduation May 2021

21538034

DECLARATION

I, Moithumi Caroline Kaibe, hereby declare that: ***“Mainstreaming disaster risk reduction in the policy framework of the education sector: the case of Dr Kenneth Kaunda District Municipality, Republic of South Africa”*** is my own work, that all sources used or quoted have been indicated and properly acknowledged by means of complete references, and that this thesis was not previously submitted by me or any other person for degree purposes at this or any other university.



Signature

August 2020

Date

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to God the Father for giving me this opportunity, courage and strength to prepare and complete this research. I am grateful for his constant love, guidance, and grace – without him, this would have never been possible.

I would also like to thank the following people who played a huge role in making this path easier and clearer; it was not easy but they were there for me. I want to thank them for their patience, understanding and giving me the courage and hope to pull through.

To my mother, husband, and kids, I am extremely grateful to have them in my life; without them, I would have never made it. They were and still are always there to support and encourage me when I am at my weakest/lowest. No words could ever describe how grateful I am.

Mr Lesego Bradley Shoroma – I am grateful to have him as my supervisor and mentor through this study. He has been so understanding, patient and encouraging. Many would have given up on me, but he was always there even when I didn't think that I would make it. I don't have enough words to express my appreciations, but I am extremely grateful for his encouragement that led me to the completion of my study.

Dr Livhuwani Nemale, I am also profoundly indebted to the heartening words and support when I needed him the most. His advice, guidance, humour and encouragement led me to believe in myself through the hard times I came across in this study. Throughout the disagreements and arguments, he never gave up on me. He believed in me when I didn't; he gave me hope and for that, I will forever be grateful. He was the engine behind this study, and one in a million.

My fellow students, Mr Lefa Mothupi and Vincent – the support given to me means a lot. I also value the care and for being there for me when I needed them the most, and becoming a shoulder to cry to. They believed in me when I no longer did.

My editor, I apologise for the tight deadline, and that I made her work under pressure. Many thanks, and to the North-West University's postgraduate bursary programme I greatly appreciate the financial support as well as that of the National Disaster Management Centre.

The provincial office of the North West Disaster Management Centre, the Disaster Management Centre at Dr Kenneth Kaunda District Office, and the Matlosana office, their cooperation and assistance in this research is highly appreciated.

Mr Matshediso at the Infrastructure Department of the provincial office of the North West Department of Education and Mr Mokgotsi at the district office – I wish to thank them for the cooperation during my research.

Finally, I would like to thank the educators at all primary and secondary schools for their cooperation and understanding.

ABSTRACT

Globally, disasters have increased and their impact has been intensely felt around the world and in South Africa. When disasters strike, large segments of the population are faced with devastating consequences that hamper the normal day-to-day activities of individuals. One of the sectors most adversely affected by disasters is the education sector. In the event of a disaster, children are some of the most affected; schooling systems are disrupted, and a fundamental right of children – the right to education – is taken away. Disasters destroy infrastructure, and children are unable to get to and/or attend school, which affects their education and exacerbates their vulnerability. The challenges disasters bring to the education sector should compel governments to make safety at schools a top priority. One way of prioritizing school safety is through the mainstreaming of disaster risk reduction into the policies of the Department of Education. Moreover, knowledge and skills transfer for dealing with disasters, hazards and risks are required in the form of awareness campaigns around communities. The purpose of this study is to evaluate if disaster risk reduction is mainstreamed in the policies of the Department of Education in South Africa, with the Dr Kenneth Kaunda District used as a case study.

A qualitative research design was adopted for the study, where purposeful sampling techniques were used to select participants in the study. Content analysis and specifically, summative and conventional content analysis methods were used to evaluate if DRR is mainstreamed into the policies of the Department of Basic Education in South Africa. In this regard, ten (10) policy documents were reviewed. A keyword search was used to ascertain if DRR is mainstreamed into the policies of the Department of Basic Education. In lieu of the fact that not everybody might be familiar and use the word disaster risk reduction, the keyword search was expanded to include other words such as disaster risk management, disaster management, disaster, hazard, disaster risk, safety and disaster resilience. Empirical data was also collected from respondents at provincial, district and schools level. A total of 22 respondents participated in the study through semi-structured, face-to-face interviews. The main finding of the study is that disaster risk reduction is not mainstreamed in the policies of the Department of Basic Education in South Africa, as there is no evidence of DRR in the policies and the context in which alternative keywords are used in the policies of the department cannot lead to a conclusion that DRR is

mainstreamed. Moreover, respondents at district level argued that they implement policies that are developed at the national and provincial level and therefore they recommended that mainstreaming of DRR (disaster risk reduction) into the policies of the Department of Education must be done at national levels. They further recommended that DRR must also be mainstreamed in the curriculum and that educators must be adequately capacitated for this new challenge.

Some of the respondents were of the view that, where DRR is not mainstreamed in the policies, schools should have safety and security policies and committees to address safety issues in schools. Respondents further argued that a lack of finances and resources to deal with disasters in schools always hamper the implementation of safety and security measures. In light of the hazards prevalent that affect schooling in South Africa, mainstreaming of DRR into the Education Department is highly recommended: more awareness campaigns must be carried out around the community and the Department of Education must work with disaster management authorities.

Keywords: disaster, disaster risk reduction, disaster management, policy formulation, policy implementation, policy analysis, mainstreaming, Department of Education, North West Province

OPSOMMING

Rampe neem wêreldwyd toe, en die gevolge daarvan tref swaar, ook in Suid-Afrika. Bevolkings wat deur sulke katastrofes getref word se daaglikse bestaan word ernstig benadeel. Die onderwyssektor is 'n deel van die samelewing wat die swaarste getref word. Kinders is die kwesbaarste: skoolbywoning word onderbreek, en 'n basiese kinderreg – die reg op onderwys – word daardeur geraak. Infrastruktuur word dikwels tydens 'n ramp beskadig en skole word gesluit of kinders kan nie by hulle skole uitkom nie. Hierdie uitdagings behoort regerings te noop om veiligheid by skole 'n top prioriteit te maak. Een manier om veiligheid by skole te prioritiseer, is om ramprisikovermindering (RRV) deel te maak van die Onderwysdepartement se hoofstroombeleide (m.a.w. om dit te "hoofstroom"). Daarbenewens moet kennis en vaardighede vir die hantering van rampe, gevare en risiko's in die vorm van bewusmakingsveldtogte onder gemeenskappe versprei word. Die doel van hierdie studie was om uit te vind of ramprisikovermindering deel uitmaak van die Suid-Afrikaanse Onderwysdepartement se hoofstroombeleide en of dit sodanig geïmplementeer word. Die Dr Kenneth Kaunda-distrik is as gevallestudie gebruik.

Hierdie studie het van 'n kwalitatiewe navorsingsontwerp gebruik gemaak, en doelbewuste en sneeubalsteekproefneming is aangewend om deelnemers aan die studie te identifiseer. Summatiewe en konvensionele inhoudontledingsmetodes is aangewend om vas te stel of RRV in die hoofstroombeleide van die Suid-Afrikaanse Departement van Basiese Onderwys opgeneem is. Tien (10) beleidsdokumente is in hierdie lig ondersoek. 'n Sleutelwoordsoektog is uitgevoer om vas te stel of RRV in die hoofstroombeleide van die Departement van Basiese Onderwys ingesluit is. Omdat almal nie noodwendig die term "ramprisikovermindering" ken en gebruik nie, is die sleutelwoordsoektog uitgebrei om ander woorde soos "ramprisikobestuur", "rampbestuur", "ramp", "ramprisiko", "gevaar", "veiligheid" en "rampherstelvermoë" in te sluit. Empiriese data is ook van respondente op provinsiale, distriks-, en skoolvlak versamel. Twee-en-twintig respondente het by wyse van halfgestruktureerde, persoonlike onderhoude aan die studie deelgeneem. Die hoofbevinding is dat ramprisikovermindering nie in die Onderwysdepartement van die Dr Kenneth Kaunda-distrik se beleide gehooftroom is nie, aangesien daar nie 'n teken van RRV in die beleide voorkom nie. Die kontekste waarin die alternatiewe sleutelwoorde wel in die beleide voorkom is nie genoegsaam om

die teendeel te bewys nie. Respondente het aangevoer dat hulle op distriksvlak beleide implementeer wat op nasionale en provinsiale vlak ontwikkel word. Gevolglik meen hulle dat die hoofstroming van RRV in die Onderwysdepartement se beleide op nasionale vlak moet gebeur. Hulle het ook aanbeveel dat RRV in die kurrikulum gehooftroom word, en dat onderwysers hulle vir hierdie nuwe uitdaging bekwaam.

Sommige respondente het gevoel dat skole wel hulle eie veiligheid- en sekuriteitsbeleide en -komitees het, hoewel die RRV nie in die beleide gehooftroom is nie. Deelnemers het verder aangevoer dat te min fondse en hulpbronne altyd die implementering van risikorampvermindering in skole bemoeilik. Daar kom genoeg rampe in die Dr Kenneth Kaunda-distrik voor dat die hoofstroming van RRV in die beleide van die Onderwysdepartement hoogs aanbeveel word. Meer bewusmakingsveldtogte moet in gemeenskappe gehou word en die Onderwysdepartement moet met rampbestuursowerhede saamwerk.

Sleutelwoorde: ramp, ramprisikovermindering, rampbestuur, beleidsformulering, beleidsimplementering, beleidsontleding, hoofstroming ("mainstreaming"), Onderwysdepartement, Noordwesprovinsie

ACRONYMS

AMCEN	African Ministerial Conference on Environment
ASDRR	African Strategy for Disaster Risk Reduction
AUC	The African Union Commission
AUAS	African Union Assembly Summit
AWG	The African Working Group
CASC	Central Asia And South Caucasus
CBO	Community-based Organisation
DDMC	District Disaster Management Centre
DFID	Department for International Development
DMP	Disaster Management Plan
DMA	Disaster Management Act
DMAF	Disaster Management Advisory Forum
DRM	Disaster Risk Management
DMTC	Disaster Management Technical Committee
DRR	Disaster Risk Reduction
ECOSOC	Economic and Social Council
EWS	Early Warning Systems
EU	European Union
FAO	Food and Agricultural Organisation
GFDRR	Global Facility for Disaster Reduction and Recovery
GNDR	Global Network of Civil Society Organisations for Disaster Reduction
HFA	Hygo Framework of Action
ICDM	International Committee on Disaster Management
ICSU	International Council for Science

IDNDR	International Decade for Natural Disaster Reduction
IFAD	International Framework of Action for The Decade
ISDR	International Strategy for Disaster Reduction
KPA	Key Performance Area
KPI	Key Performance Indicator
MDG	Millennium Development Goals
NDMC	National Disaster Management Centre
NDMF	National Disaster Management Framework
NDRMF	National Disaster Risk Management Framework
NEPAD	New Partnership for Africa's Development
NGO's	Non-Governmental Organisations
NDPPM	Natural Disaster Prevention Preparedness and Mitigation
NSNP-	National School Nutrition Project
REC	Regional Economic Communities
SADC	Southern African Development Community
SADMA	South African Disaster Management Act
UN	United Nation
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISDR	United Nations International Strategy for Disaster Reaction
UNDRR	United Nations Disaster Risk Reduction
UNICEF	United International Children's Emergency Funds
URT	United Republic of Tanzania
USA	United States of America
USAID	United States Agency for International Development
WCDR	World Commission for Disaster Risk

TABLE OF CONTENTS

DECLARATION I

ACKNOWLEDGEMENT II

ABSTRACT IV

OPSOMMING VI

ACRONYMS VIII

CHAPTER 1: OVERVIEW OF THE STUDY 1

1.1 INTRODUCTION 1

1.2 DERMACATION OF THE STUDY AREA 2

1.3 PROBLEM STATEMENT 4

1.4 RESEARCH QUESTIONS 7

1.5 RESEARCH OBJECTIVES 7

1.6 CENTRAL THEORETICAL STATEMENT 8

1.7 RESEARCH METHODOLOGY 8

1.8. Literature review 9

1.9. Content analysis of policy documents 9

1.9.1. Collection of the documents 10

1.9.2. Content analysis of the policy document 11

1.10. Empirical study 11

Research design and approach 11

Sampling 12

Data collection 13

Data Analysis.. 13

1.11.	LIMITATIONS OF THE STUDY	15
1.12.	SIGNIFICANCE OF THE STUDY	16
1.13.	ETHICAL CONSIDERATION	16
1.14.	CHAPTER LAYOUT	17
1.15.	CONCLUSION	18
	CHAPTER 2: THEORETICAL PERSPECTIVE ON PUBLIC POLICY FORMULATION, IMPLEMENTATION, AND ANALYSIS	19
2.1	INTRODUCTION	19
2.2.	THE POLICY PROCESS	19
2.2.1.	Problem identification and articulation	21
2.2.2.	Agenda Setting.....	22
2.2.2.1.	Role players in policy agenda setting.....	23
	<i>Elected political office bearers</i>	23
	<i>Appointed officials</i>	24
	<i>Courts of law</i>	24
	<i>Interest groups</i>	25
	<i>Media</i>	26
2.2.3.	Policy formulation and design	27
2.2.4.	Policy implementation	29
2.2.5.	Policy evaluation	33
2.3.	CHALLENGES AND DEFICIENCIES OF POLICY FORMULATION AND IMPLEMENTATION	36
2.4.	CONCLUSION	37

CHAPTER 3: MAINSTREAMING DISASTER RISK REDUCTION	38
3.1 INTRODUCTION	38
3.2 THE EVOLUTION OF THE CONCEPT OF DISASTER RISK REDUCTION	38
3.3 INTERNATIONAL FRAMEWORKS FOR DRR	41
3.4 DISASTER RISK MANAGEMENT: A SOUTH AFRICAN PERSPECTIVE.....	45
3.4.1. Policies and legislative framework for DRR in SA	48
Disaster Management Act 57 of 2002.....	49
National Disaster Management Framework 2005.....	50
3.5 THE IMPORTANCE AND WAYS OF MAINSTREAMING DRR INTO SECTORAL PLANNING	52
3.5.1. Legal and regulatory mechanisms	54
3.5.2. Institutional mechanisms.....	55
3.5.3. Policies and planning.....	56
3.5.4. Finance and budget.....	56
3.5.5. Decentralisation.....	57
3.5.6. Capacity building.....	57
3.6 MAINSTREAMING OF DISASTER RISK REDUCTION INTO THE POLICIES OF THE EDUCATION SECTOR	59
3.7 CONCLUSION	65
CHAPTER 4: FINDINGS AND DATA ANALYSIS.....	66
4.1 INTRODUCTION	66
4.2 FINDINGS OF POLICY DOCUMENTS CONTENT ANALYSIS.....	66
4.2.1 National School Safety Framework of 2015.....	69

4.2.1.1. Safety.....	69
4.2.1.2. Disaster risk management	70
4.2.1.3. Hazards.....	70
4.2.2. The National Minimum Uniform Norms and Standards for School Infrastructure of 2009.....	71
4.2.3. Regulations for Safety Measures at Public Schools of 2001. published under Government Notice 1040 in Government Gazette 22754 of 12 October 2001 and amended by GN R1128 in Government Gazette 29376 of 10 November 2006.....	71
4.2.4. Report on the Implementation of Education White Paper 6 on Inclusive Education: An Overview for the Period: 2013 _ 2015 of 2015.....	72
4.2.5. Regulations on the National Curriculum Statement Grades R-12, published as Government Notice 1114 in Government Gazette No. 36041 of 28 December 2012 as amended as Government Notice No.1404 in Government Gazette, No. 41321 dated 15 December 2017.....	73
4.3 FINDINGS OF EMPIRICAL STUDY AND ANALYSIS.....	73
4.3.1. Biographical information of participants	73
4.3.2. Themes that emerged from the study	74
4.3.2.1. Thematic Area 1: Respondents’ Perspectives on disasters	75
Respondents’ conceptualisation of disasters	76
Roles and responsibilities of stakeholders before and during disasters	77
4.3.2.2. Thematic Area 2: Impacts of disasters in schools	79
Hazardous incidents which leads to disasters in schools.....	79

The use of gas stoves for the National School Nutrition Project (NSNP) (- Schools feeding scheme).....	81
4.3.2.3. Thematic Area 3: The need/importance to include DRR in education policies	82
Community empowerment for disaster preparedness.....	82
Safety and security within schools.....	83
4.3.2.4. Thematic Area 4: DRR incorporated into the policies of the Department of Education	84
4.3.2.5. Thematic Area 5: Challenges for including DRR in education policies	86
Lack of resources (human and financial resources).....	86
Lack of skills and knowledge about DRR policy.....	87
4.3.2.6. Thematic Area 6: Management of mainstreaming process of DRR into the education department.....	88
Monitoring of DRR funds into DBE	89
Assessment of policy implementation into DBE	90
Care and support from DRR.....	90
4.4. DISCUSSION	91
4.5. CONCLUSION	95
CHAPTER 5: RECOMMENDATIONS AND CONCLUSION.....	96
5.1. INTRODUCTION	96
5.2. OVERVIEW OF CHAPTERS.....	96
5.3. ACHIEVEMENT OF THE RESEARCH OBJECTIVES	97
5.4. SUMMARY OF THE FINDINGS	99
5.5. RECOMMENDATIONS	103

5.6.	CONCLUSION	106
	BIBLIOGRAPHY.....	108
	ANNEXURES.....	121

LIST OF TABLES

Table 1.1:	Sample composition	12
Table 2.1:	Important elements in the policy process	21
Table 2.2:	Policy evaluation process	35
Table 4.1:	Number of times keywords are mentioned in the reviewed documents	68
Table 4.2	Profile of participants in the semi-structured interviews	73
Table 4.3:	Identified themes and their sub-themes	74

LIST OF FIGURES

Figure 1.1: A map of North West Province2

Figure 1.2: DR Kenneth Kaunda District with the North West Province3

Figure 2.1: The policy-making process20

Figure 2.2: Top-Down & Bottom-Up Approaches to Implementing Change32

Figure 3.1: Principles of mainstreaming disaster risk reduction54

Figure 3.2: Capacity-building framework for disaster risk management58

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Disasters constitute a sudden and usually an unexpected disruption of normalcy (ISDR, 2004b:3). One of the most significant consequences of both natural and human-induced disasters is the impact they have on children's education, which is often one of the first activities abandoned when disasters occur (Plan International, 2014). It is reported that of the 1.2 billion children enrolled for primary and secondary education, 875 million live in high seismic risk zones and hundreds of millions more face regular floods, landslides, extreme weather events, and fire hazards (Plan International, 2014). As such, the last three decades have seen an increase in the severity and impact of disasters on society, which has necessitated a radical shift in thinking about the prevention of and response to disasters (ISDR, 2004b:3). Governments, the United Nations (UN), disaster management agencies, disaster managers, scholars, non-governmental agencies (NGOs), and various other stakeholders across the globe are actively working to reduce the risk and impact of disasters by adapting policies and instituting various risk reduction programmes (Henstra, 2005). The main objective is to reduce the loss of lives, damage to property, and socio-economic consequences of disaster through an intensive international campaign (ISDR, 2004b:3).

This study addresses the mainstreaming of disaster risk reduction (DRR) in the policies of the Department of Education in South Africa, using the Dr Kenneth Kaunda District in the North West Province as a case for the empirical study. The dissertation is structured in five chapters. This chapter provides an overview and orientation to the study. After this introduction, the problem under investigation is presented. This is followed by an outline of the research questions and the objectives of the study. Instead of a hypothesis, several central theoretical statements that inform the study are outlined after which the research methodology presented. The different aspects discussed under the research methodology includes the literature review, documentary content analysis, research design adopted, sampling methods applied, data collection and an outline of tools used to collect the data and analyse data. After the research methodology, the limitations of the study are identified, the significance of the study highlighted and ethical considerations outlined. In concluding the chapter, the dissertation chapters are laid out before summarising the chapter.

1.2 DERMACATION OF THE STUDY AREA

The empirical study was conducted in the Dr Kenneth Kaunda District of the North West Province in South Africa. Dr Kenneth Kaunda (DKK) is one of the four districts in the North West Province (see figure 1.1) and its seat is in Klerksdorp. As shown in Figure 1.2, the district consists of the three local municipalities of Matlosana, JB Marks, and Maquassi Hills. Dr Kenneth Kaunda is a region with a rich and diverse natural and cultural heritage with potential sustained growth. The region is home to some of the most prominent gold mines in the world and one of the oldest meteor impact sites in the world. The district is serviced by many primary roads with the N12 Treasure Corridor forming the main development axis in the district, and serving as a potential concentration point for future industrial, commercial and tourism development.

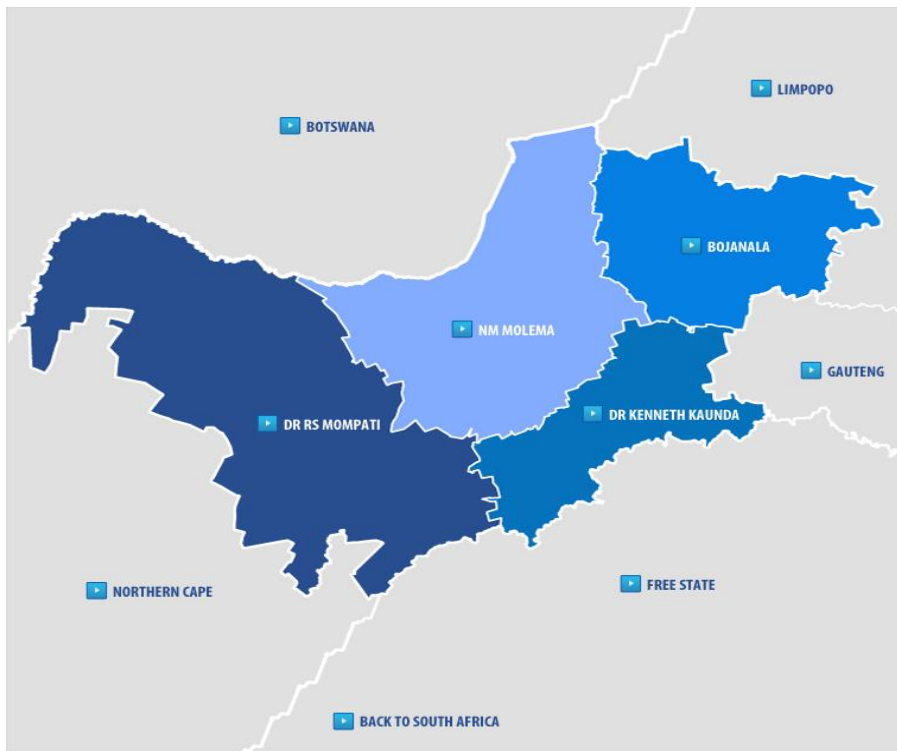


Figure 1-1: A map of the North West Province (Source: pngceb. Provincial GIS/IT org-2018)

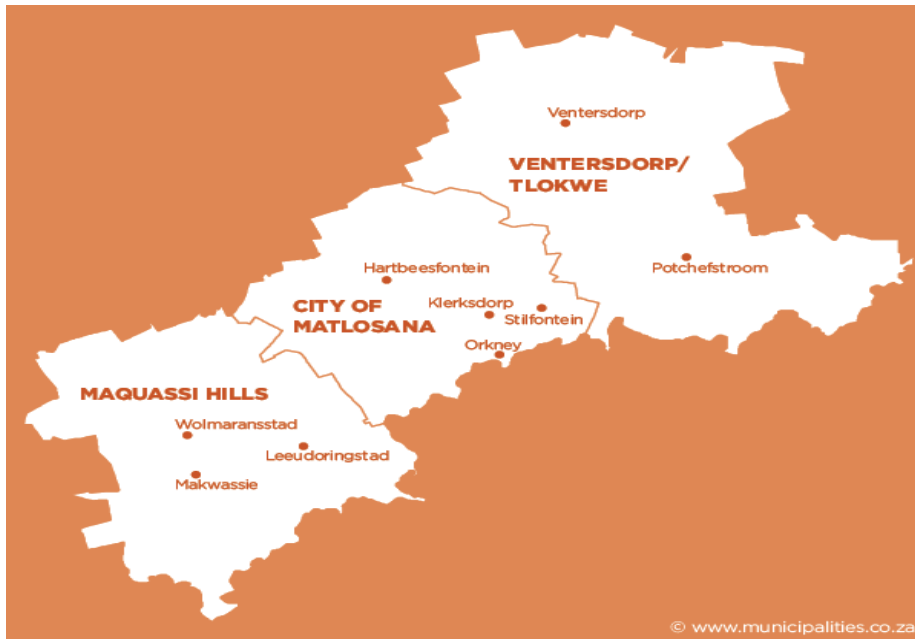


Figure 1-2: Dr Kenneth Kaunda District in the North West Province (Source: local municipality.co.za-2018)

In the past, schools in the Dr Kenneth Kaunda District have been affected by different hazardous incidents such as fires, floods, earthquakes (tremors), and drought, which necessitated this study. There are different types of schools found in Dr Kenneth Kaunda District. These schools differ according to their quintile previously known as (e.g. private schools, township schools, farm schools, disabled schools). According to Masondo (2016), not all private schools are independent since some are under the administration of the government. These private schools, also known as independent schools, are schools that are not owned by the state. They are usually owned and operated by a trust, church or community, or by a for-profit company. It is important to note that certain private schools also receive a grant from the state, depending on the community served and fees charged. Schools in each province are therefore classified into five groups from the poorest to the least poor. For example, Quintile 1 is a group of schools in each province catering for the poorest 20% of schools. Quintile 2 caters for the next poorest 20% of schools while Quintile 5 schools represent the least poor. Schools receive money from the government according to Quintiles. Quintile 1 schools receive the highest allocation per learner, while Quintile 5 receives the lowest (South Africa's school guide from enrolment to graduation). However, most public schools, farm schools and disabled

schools are the most affected by disasters in the Dr Kenneth Kaunda District. Hence there is the need to integrate Disaster Risk Reduction into the Education Policy Framework.

1.3 PROBLEM STATEMENT

Disasters can have devastating effects on children, youth, and the education system (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014). This is because the education sector consists of the structural, functional and pedagogical aspects of an education system (Loy *et al.* 2007). In the event of a disaster, children are the most affected and schooling systems are disrupted, thereby affecting the fundamental right of children to be educated (Selby & Kagawa, 2012). Similarly, it has been argued that, over and above the threat to life and livelihoods, disasters prevent children from going to school as a result of destroyed infrastructure (UNESCO, 2014). As such, developmental gains in education are reversed with the damage or destruction of school facilities, the prolonged disruption of education, limited access to schooling, and compromised quality of education (Selby & Kagawa, 2012). In the foreword of the Report "Assessing School Safety from Disasters: A Global Baseline Report" of 2012, Margareta Wahlström, former Special Representative of the Secretary-General for Disaster Risk Reduction, alluded to the fact that collapsing schools in large scale disasters have killed thousands of children over the past twenty years and wiped away billions of development investments in education facilities (United Nations International Strategy for Disaster Reduction [UNISDR], 2012).

For instance, the Haiti earthquake of 2010 took the lives of approximately 4000 students and 700 teachers and destroyed or damaged 80% of schools in Port-au-Prince, and 60% of schools in the South and West Departments (UNESCO, 2014). UNESCO (2011) estimated that 175 million children per year had likely been affected by natural disasters in the past decade. In 2018, Nguyen and Minh Pham found that exposure to floods reduced the number of grades completed by children in Ethiopia, India, and Vietnam. Specifically, schools in the North West Province have experienced disasters of different magnitudes, such as the fire that ravaged a school for the deaf and blind in 2012, in Christiana in the Dr RS Mompati district that has disrupted schooling activities. In the DKK district schools are sometimes affected by tremors due to mining. For instance, in 2014, a tremor in the Dr Kenneth Kaunda district caused some classes in a school in Khuma Township to collapse, and children were injured. This and other disastrous

events affecting the education sector throughout the country compels the Department of Education to prioritise mainstreaming disaster risk reduction in their policies.

Such issues compel governments to make school safety a top priority as part of their national disaster risk reduction strategy and development agenda. This places responsibility on policymakers to ensure that learners and educators are safe in schools and to make sure that education facilities are safe. The overarching objective of DRR in education is the systematic integration of the analysis of disaster risks and DRR measures into education sector policies, planning and financing obligations (UNICEF, 2011) This is because the structural, functional and pedagogical aspects of an education system all have vital roles to play in reducing risk from disasters in communities (Loy, Sanjaya, Ma, Anisur, and Roy, 2007). This will ensure that disaster risk reduction becomes a priority in the education sector. The main policy drivers of risk reduction in the education sector are children's dual rights to protection and participation, including education on preventing and reducing disaster risk (UNESCO, 2014). Drawing from UNISDR (2014), the purpose of mainstreaming DRR in the policies of the education sector is to protect learners and educators from physical harm in schools, to assure educational continuity when faced with hazards, and to safeguard investments in the education sector.

Mainstreaming disaster risk reduction particularly to all sectors of development is an approach promoted to address the underlying risk factors in the natural and built environments and the social and economic conditions of people (United Nations Economic and Social Commission for Asia and the Pacific (Chakrabarti, 2017). For instance, in promoting mainstreaming DRR, the Hyogo Framework for Action (HFA) 2005–2015 outlines effective integration of disaster risk reductions into sustainable development policies, planning and programmes at all levels as one of a strategic goal. Moreover, the HFA highlights the need to address the underlying risk factors across all sectors of development as one of its five priorities for action (UNISDR, 2005). Realising the gaps in the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015 – 2030, the African Union (AUC) targets to “Substantially increase the number of countries with DRR in their educational systems at all levels; both as standalone curricula and integrated into different curricula” as set out in the Programme of Action (PoA) for the implementation of the Sendai Framework (African Union Commission, 2016).

Mainstreaming is carried out to bring to the forefront an important issue that is not the concern or business of a particular sector but is the common concern of all sectors. The underlying principle of mainstreaming is that by bringing the critical cross-cutting issue to the forefront, it becomes the core principle of governance that permeates all sectors and all levels (Chakrabarti, 2017). Thus, mainstreaming has the dual purpose of ensuring that development is protected from existing and future disaster risks and that development does not create any new risks of disasters or exacerbates the existing risks (Chakrabarti, 2017). The HFA and its successor, the Sendai Framework for DRR 2015 – 2030, set out six principles important for mainstreaming DRR:

- develop legal and regulatory mechanisms;
- set up institutional mechanisms;
- adopt framing policies and planning;
- provide financial and budgetary support;
- decentralize responsibilities to local levels; and
- build capacities at all levels.

However, mainstreaming DRR across sectors of development has been acknowledged as the most difficult, slow and challenging of all DRR tasks (Ronilda (2010). The difficulty of mainstreaming has been alluded to several reasons including the involvement of many different stakeholders, focus on economic growth, poverty reduction and employment creation by governments, DRR lacking political mileage and lack of clear, cogent and practical guidelines, tools and techniques for mainstreaming DRR (Chakrabarti, 2017). Moreover, issues, approaches and strategies for mainstreaming DRR vary from one sector to another. Roller, (2013) indicates that education is an important sector in which DRR must be mainstreamed. Mainstreaming of DRR into programmes, activities and projects of the education sector could prove vital to reducing the loss of life and infrastructure and reducing the number of schooling days lost during a disaster. As Legotlo, (2014) opine, DRR in education equips people with knowledge and skills such that hazards cause the least possible loss of human life, inflict as little damage and destruction as possible, and only cause minimum disruption to economic, social, and cultural activities. However, mainstreaming DRR challenges in the education sector includes lack of awareness of the need to mainstream in the Ministries of Education, lack

of financing for the training of teachers in DRR and for developing materials, lack of capacity in education, resistance towards adding DRR due to overload of classes and need to adjust national curriculum into local context (UNISDR, 2014). A study by Rahman, Nabila, Islam, Tasnim, Tabassum, Tanni and Roy, (2020) in Dhaka City, Bangladesh found that lack of policy to direct the mainstreaming of DRR in education can be a real drawback to execute it to the school level.

In lieu of the risk and impact of disasters affecting schooling and the mainstreaming challenges as outline in the preceding paragraphs, the purpose of this study was to evaluate whether DRR was mainstreamed in the policies of the Department of Education in South Africa, with Dr Kenneth Kaunda District in the North West Province serving as a case study for the empirical study. The aim of the study is to evaluate if DRR is mainstreamed in education policy. This shows that it might or might not be mainstreamed, hence the problem under investigation is addressed by addressing the research questions and research objectives as outlined in the sections below.

1.4 RESEARCH QUESTIONS

The research questions addressed in this study are:

- How are public policies formulated, implemented and analysed?
- Why is it important to mainstream DRR into the policies of the education sector?
- How can DRR be mainstreamed into the policies of the education sector?
- Is DRR mainstreamed in the policies of the Department of Education in South Africa?

1.5 RESEARCH OBJECTIVES

The objectives of this research were as follows:

- To evaluate how public policies are formulated, implemented and analysed;
- To outline the importance of mainstreaming DRR into the policies of the education sector;
- To assess how DRR can be mainstreamed into the policies of the education sector; and

- To evaluate if DRR is mainstreamed into the policies of the Department of Education in South Africa.

1.6 CENTRAL THEORETICAL STATEMENT

This study was informed by the following central theoretical statement:

- Disaster destroys infrastructure and, in the process, leads to loss of life and high economic costs (UNISDR, 2009a).
- Disaster risk reduction is everybody's business and the education sector is expected to incorporate and implement DRR in education policies (DMRA, 2001:216).
- Implementation of DRR policies in the education sector will improve safety in the schooling environment (DMRA 2002:217; UNICEF, 2011:7).
- Education sector policies and plans lay a foundation for the effective implementation of DRR programmes within schools (UNICEF, 2011:5).
- Disaster Risk Reduction (DRR) is a fundamental pillar of sustainable development and requires an all-of-society-inclusive approach, as disaster affects people in different ways (UNISDR, 2015:1)

1.7 RESEARCH METHODOLOGY

A research methodology is a way of thinking about studying a social reality; it is a system of methods and procedures followed to acquire data and information pertinent to a study (Strauss & Corbin, 2001:1). In this study, a qualitative research approach was applied. Gibbs (2007:12) emphasises that qualitative research is not conducted in a structured environment such as a laboratory, but requires the researcher to go into the field and immerse himself/herself in the real world to "understand, describe and sometimes explain social phenomena from the inside". In this study, a combination literature review, content analysis and empirical findings were carried out to inform the study. A discussion of the main elements of the research methods applied in the study is presented below.

1.8. Literature review

The literature review provides the background and context of the research problem. De Vos *et al.* (2012:321) indicates that, in case studies, the researcher must enter the field with knowledge of the relevant literature before conducting the field research; the case-based themes must be identified beforehand to be explored in the field research. The literature also creates a foundation based on the existence of related knowledge, the main aim being to contribute to a clear understanding of the nature and meaning of the identified problem (Grinnell and Unrau, 2005:46). An in-depth investigation into the existing body of scholarly and academic work was done to discover the research already conducted into issues on policy formulation, implementation and analysis and mainstreaming of disaster risk reduction and the implementation of DRR policy in the education sector, particularly in schools. In this regard, peer-reviewed journal articles, academic books, and reports were consulted. These are synthesised in chapter 2 and three of the study.

1.9. Content analysis of policy documents

Content analysis describes a family of approaches for systematic examining of texts (Hsieh and Shannon, 2005; Hall and Steiner, 2020). Hall and Steiner, (2020) further state that qualitative content analysis is a close, comprehensive, and organised reading of a set of texts to identify themes, intent, or patterns. In this study qualitative content analysis of policy documents were conducted using conventional as well as summative content analysis approaches (Hsieh and Shannon, 2005). Conventional content analysis is an inductive approach that focuses on text data while a summative content analysis involves counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context (Hsieh and Shannon, 2005). Using the summative approach to qualitative content analysis, data analysis began with searches for occurrences of the identified keywords by hand or by a computer after which, word frequency counts for each identified term are calculated, with source also identified (Hsieh and Shannon, 2005). In this regard, counting allowed for the interpretation of the context associated with the usage of the identified keywords.

1.9.1. Collection of the documents

Documents for analysis were collected using Internet-based search on the websites of the National Ministry/ Department of Basic Education, and the Provincial Department of Education. Inclusion criteria were that documents had to be developed by the government and published by the Department/ Ministry of Basic Education at the national and provincial level. The sample was restricted to documents that focussed on schooling, curriculum, and schools safety and security. No other sampling criteria was added. An Internet search in the Provincial Department of Education website yielded no result. The final sample of documents analysed from national government comprises of 10 policy documents. The policy documents downloaded are clustered into the following categories: (a) legislation or Acts (2 documents); (b) White Paper or policy (2 document); (c) regulations (2 documents); (d) frameworks and action plans (3 documents); and reports (1 document). These documents are:

- National Education Policy Act, 1996 (Act No. 27 of 1996) National Policy for Equitable Provision of an Enabling School Physical Teaching and Learning Environment.
- South African Schools Act 84 Of 1996
- White Paper on Education and Training, Notice 196 of 1995
- The national minimum uniform norms and standards for school infrastructure, of 2009
- The National School Safety Framework of 2015
- Report on the Implementation of Education White Paper 6 on Inclusive Education: An Overview for the Period: 2013 - 2015 of 2015
- Regulations for Safety Measures at Public Schools of 2001. Published under Government Notice 1040 in Government Gazette 22754 of 12 October 2001 and Amended by GN R1128 in Government Gazette 29376 of 10 November 2006
- Regulations on the National Curriculum Statement Grades R-12, published as Government Notice 1114 in Government Gazette No. 36041 of 28 December 2012 as Amended as Government Notice No.1404 in Government Gazette, No. 41321 dated 15 December 2017.
- Revised National Curriculum Statement Grades R-9 (Schools)
- Action Plan to 2019: Towards the Realisation of Schooling 2030, of 2015

1.9.2. Content analysis of the policy documents

The content analysis of the policy documents consisted of several steps. Firstly, a list of keywords was developed before data analysis to allow standardized analysis and to identify the policy documents where DRR is mainstreamed. The keywords are derived from the focus and interest of study and included disaster risk reduction, and alternative words such as disaster risk management, disaster management, disaster, hazards, disaster risk, safety and disaster resilience. Secondly, policy documents were downloaded from the Ministry/ Department of Basic Education's website. Thirdly, the collected documents analysed using ATLAS.ti for the appearance of the keywords counting the number of times that each keyword is mentioned. Lastly, the documents where the keywords are mentioned were thoroughly read and text analysed to verify the context in which the word is used. The findings of the analysis are presented in 4.2 of this dissertation.

1.10. Empirical study

The discussion below outlines how the empirical study was conducted.

Research design and approach

This study followed a qualitative research design with an inductive, open-ended strategy. The importance of using qualitative research design lies in that a qualitative perspective allows for multiple realities to exist as determined by the perceptions and experiences of individuals or groups, and are therefore context-specific (Struwig, *et al.* 2001:16). This is because qualitative research design encompasses such a variety of research methods and could be seen as an interdisciplinary, multi-paradigmatic and a multi-method approach to research (Struwig, *et al.*, 2001:11). A qualitative research design allows for flexibility in that it allows the researcher the freedom to adjust the design to better suit the situation and also allows for a less rigid approach (De Vos, 2007:269). One aspect that motivated the selection of a qualitative design is that researchers usually collect data in the field where issues under study occur (Creswell, 2009:17). In a qualitative study, the research design is essentially a dynamic process of continuous reflection that occurs throughout the project. This means that the activities of data collection and data analysis can lead to new and refocused questions, and in a qualitative study the researcher will construct and reconstruct the research design (Maxwell, 2013:3). Myers (2004) states that qualitative research involves the use of qualitative data – such as interviews,

documents, and participant observation data – to understand and explain social phenomena. The motivation for doing qualitative research is to help researchers understand people and the social and cultural contexts within which they live and engage daily (Myers, 2004). A case study approach was undertaken to fulfil the research objectives of the study.

Sampling

In this study, purposive sampling was applied to select participants. According to Maree and Pietersen (2010:90), purposeful sampling aims to identify and select members that represent the target population, keeping in mind factors such as age and gender, race and class, socio-economic status, literacy level and demographics. Creswell (2007:125) explains purposive judgment sampling as a form of sampling that purposefully selects participants because they are well informed and understand the research problem. Purposive sampling in this study was used to select officials in the Department of Education at Provincial, district, and school levels, and Disaster Management officials at district and local municipality level, because the research is about the incorporation of disaster risk reduction into the framework of the education department.

For this study, the school principals were requested to recommend educators and heads of departments within schools who could provide valuable information and who had appropriate knowledge on the research topic. In this regard, the Principals recommended members of safety committees as they deal with all disaster-related issues. A total of ten educators from three primary schools and five educators from two secondary schools participated in the study. A further two key informants in the Department of Education (one at the district level and one at provincial levels) also participated in the study. Moreover, five key informants within the disaster management fraternity participated in the study. Thus a total of 22 respondents participated in the study (see table 1.1 below).

Table 1-2-1: Sample composition

Department of Education	Disaster Management Centre
Provincial = 1	Provincial = 2
District = 1	District = 1
Educators in schools = 15	Municipal office = 2

Total = 17	Total = 5
-------------------	------------------

Data collection

Data collection for this study includes collecting information through unstructured or semi-structured interviews, and documentary analysis (as explained in section 1.7.2 above) (Creswell, 2014:189). Schutte (2006:158) postulates that multiple data collection methods can be used in a single study. De Vos *et al.* (2012:321) agrees with this view and states that a case study entails detailed, in-depth data collection methods that involve multiple sources of information that are rich in context and may include interviews, documents, observations or archival records. As Maxwell (2013:102) indicates, the research questions articulate what the researcher seeks to understand, but it is the collection and interviewing process that develops the understanding. According to Schutte (2006:674), the interview is the most commonly used data collection technique in social research. De Vos (2013:224) argues that interviews are commonly used in social research because qualitative research is concerned with understanding rather than explaining; with naturalistic observation more than controlled measurement; with the subjective exploration of reality from the perspective of an insider as opposed to that of an outsider, as is predominant in the quantitative paradigm.

Data Analysis

In this study, qualitative descriptive data analysis was used and the findings are thematically presented. De Vos *et al.* (2007:399) defines qualitative data analysis as a "...non-numeric examination and interpretation of observations, to discover underlying meanings and patterns of relationships...". Gibbs (2007) maintains that the idea of analysis implies some kind of transformation. Gibbs (2007) also adds that the researcher starts by generating enough qualitative data and follows the process of data stages, and then the researcher has to process data into intelligible themes that can offer a trustworthy and insightful analysis. Neuman (2006:467) notes that data analysis involves "examining, sorting, categorising, evaluating, comparing, synthesising and contemplating the coded data as well as reviewing the raw and recorded data". Creswell (2009:195) adopts a more descriptive view, stating that data analysis should be a process that takes place concurrent with the interviews.

The steps in the analysis of data involve reducing data by sorting and organising data into meaning. The meanings identified are used to form categories. These categories enable the researcher to formulate themes and the direction of the research. The classification of themes is perceived to be an essential part of the qualitative design (Welman *et al.*, 2006:210). This is followed by data interpretation to develop new knowledge by formulating all the findings. The following steps as proposed by Creswell (2009:197) were employed during data analysis:

- Step 1 - Organising and preparing data: In this stage, the researcher transcribed all the interviews, went through the material, and typed all the field notes made during interviews. The researcher sorted and arranged data into different types based on the sources that provided the information.
- Step 2 – Reading the data: The researcher read all the data thoroughly to gain a general understanding of the information received from all the participants. This stage enabled the researcher to reflect on the overall meaning of the data generated in the field.
- Step 3 – Coding data: This stage is the beginning of the coding process. Creswell (2009:197) indicates that coding is the process of organising data by bracketing chunks (or text or image segments) and writing a word representing a category in the margins.
- Step 4 – Descriptive coding: In this stage, the researcher used the coding process to describe the setting, people, and themes for analysis. These themes were formulated into the major findings (headings in the empirical study) in this research study. Creswell (2009:197) states that these themes and categories should portray the different perspectives of the research participants and should be presented with a wide range of quotations and evidence.
- Step 5 – Discussion of findings: The researcher conveyed the coded data in a narrative analysis. During this stage, the researcher may use narrative analysis to discuss the findings in different ways: several themes and their interconnections, visuals, tables, graphs, and figures serve to support the discussion of the findings.

- Step 6 – Interpretation of data: In this phase, data is interpreted. This step highlights the lessons learned from the field and information is compared to the theories or the literature discussed in the previous chapters. During this stage, new questions might be formulated to get to the bottom of the problem under investigation.

Themes were identified by bringing together components of ideas and experiences that would be rather meaningless when viewed alone (Arosen, 1995). Patterns of views and experiences are considered themes because they capture important information about the research question and represent some patterned responses or meanings within the data set (Braun & Clarke, 2006). Thematic analysis was selected for its requirement of a low level of interpretation (Vaismoradi *et al.*, 2013), as it organises minimally and describes data sets in rich detail (Braun & Clarke, 2006). Moreover, thematic analysis also provides a flexible and useful tool to provide a rich and detailed, yet complex account of data (Braun & Clarke, 2006).

1.11. LIMITATIONS OF THE STUDY

Mouton, *et al.* (2006:579) refer to limitations of a study as the conditions that restrict the researcher. The study strives to validate concepts identified in the semi-structured interviews with the theme-based concepts identified in the literature review, by drawing comparisons of identifying differences. De Vos *et al.* (2012:321) state that the researcher must have access to participants, as well as having their confidence. The unavailability of the participants was a limiting factor in the study. Most of the respondents that were purposefully selected were unable to participate in the study for various reasons. The study was inspired by the recurrent disaster incidents/hazards affecting schools within the North West Province. For convenience reasons, the researcher restricted the research to one locality within a district, as the scope of the study would have been too wide if the entire North West Province, let alone country had to be included. Whereas the provide a glimpse of the situation, the empirical findings of the study which were generated from respondents in one district in North West Province cannot be generalised for the entire education system in South Africa.

1.12. SIGNIFICANCE OF THE STUDY

This study was used to stimulate a discussion in the education sector about the importance of incorporating DRR into the policies of the Department of Education. Although the study conducted within the DKK district, it would have been a productive effort if it leads to the amalgamation of the DRR policy into the policy framework of the national Department of Education.

1.13. ETHICAL CONSIDERATION

Patton (1994:25) states that respondents have the right to confidentiality in terms of data collected about them and from them. To promote these values in the study, permission was obtained from participants before the interviews. Before interviews were conducted, respondents were informed of the purpose of the research, the process that would be followed during the research, potential benefits, and the voluntary nature of participation in the study.

Thus the research was based on joint agreement, collaboration, accepted conventions, and informed expectations among all participants in the research before the information was collected from participants (De Vos *et al.*, 2011:114). Guidelines provided to participants before they became involved in the research included:

- Anonymity: All data were subjected to anonymity by removing identifying information and/or disguising real names;
- Voluntary participation: Eligible participants were not forced to participate;
- Informed consent: The research objectives and methods were fully explained to the participants before the research commenced. The letter of consent is included in this study.
- Confidentiality: Each participant's original information was only used by the researcher to compile the findings for the research purposes. Participants' names remained confidential.

Accordingly, and following the above ethical considerations, the researcher sought permission to research the heads of the institutions: school principals and managers at the Provincial Disaster Management Centre (PDMC) of the North-West Provincial and District Disaster Management Centre.

1.14. CHAPTER LAYOUT

CHAPTER 1: OVERVIEW OF THE STUDY

This chapter provides the background and overview of this study. The chapter presents the statement of the problem, research questions and objectives, and also outlines the central theoretical statements the study was grounded on. Furthermore, the chapter explains the research methods that were used in this study.

CHAPTER 2: THEORETICAL PERSPECTIVE ON PUBLIC POLICY FORMULATION, IMPLEMENTATION, AND ANALYSIS

The main focus of this chapter review of literature on policy formulation, implementation and analysis in the public sector. Relevant literature on the mainstreaming of public policy into the education system is discussed.

CHAPTER 3: MAINSTREAMING DISASTER RISK REDUCTION

This chapter explores the literature on DRR ranging from international and national policy and legislative frameworks, the need and importance of mainstreaming DRR and the ways of mainstreaming DRR into the policy framework of the Department of Education.

CHAPTER 4: FINDINGS AND DATA ANALYSIS

This chapter evaluates, analyses and discusses collected data from empirical investigations in the Dr Kenneth Kaunda District within the North West Province. The data was collected in one-on-one semi-structured interviews, and also through content analysis. This data was critically analysed and discussed by comparing with the findings of other studies.

CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

Recommendations are derived from the findings of the research, and attempt to answer the research questions and provide some conclusions when coming to the formulation, implementation and analysis of disaster management policies within the disaster risk reduction department.

1.15. CONCLUSION

This chapter provided an overview of the study and identified the need and justification for mainstreaming disaster risk reduction into the policy framework of the Department of Education. The chapter also provided an orientation to the study by clearly determining the problem statement and the study questions. Moreover, to address the identified problem and the research questions, the study provided several research objectives to help direct the study. The central theoretical statements the study was grounded on were highlighted, followed by the research methods applied in the study. The next chapters – Chapters 2 and 3– inform, discuss and highlight the existing body of knowledge and assumptions in terms of the policy, policy adoption, and disaster management within different communities, especially the school environments. These chapters address the first, second and third objectives of the study, which was to provide theoretical perspectives on policy formulation, implementation, and policy analysis; to explore and evaluate theoretical perspectives on DRR, and the mainstreaming of DRR into the policies of the education sector.

CHAPTER 2: THEORETICAL PERSPECTIVE ON PUBLIC POLICY FORMULATION, IMPLEMENTATION, AND ANALYSIS

2.1 INTRODUCTION

The previous chapter provided an overview of the study, identified and reflected on the apparent need for the integration of disaster risk reduction into the policy framework of the Department of Education efficiently and effectively. Chapter 2 provides an overview of the nature and scope of the theoretical constructs of public policy, where the focus in this regard is given to policy formulation, implementation, and policy analysis. This is important because it is through public policy that governments shape the lives of citizens (Luetjens, 2019). As Khan (2016) indicates, public policy is the guide to action and represents a broader framework to operationalise a philosophy, principle, vision, decision, or mandates which are then translated into programmes, projects and actions. It is thus important to understand how public policies are made and how they evolve from aspirations and ideas to tangible outcomes (Luetjens, 2019). This chapter addresses the first objective of the study, which is “to evaluate how public policies are formulated, implemented and analysed”. This chapter is structured as follows: the first part of the chapter is presented hereunder is about the policy process focusing on policy formulation and design, implementation and analysis. It is important to properly understand policies and the theories behind them to understand how policies are formulated in the public sector. The second part presents the challenges of policy formulation and implementation. The chapter then focuses on a few selected policies of the Department of Education in South Africa and finally, the chapter concludes by summarising the discussions in the chapter.

2.2. THE POLICY PROCESS

Policy and institutions are commonplace terms and complex phenomena that pervade our lives (Handmer, 2007:29). They are terms and phenomena that we live with, construct, battle against, and have opinions about (Handmer, 2007:29). Policy processes, programmes, and instruments and the institutional systems where these policies are implemented and designed to direct the behaviour of individuals, households and organisations to achieve social goals (Handmer, 2007:29). Policies may be well designed to facilitate their successful implementation or they may fail to achieve the desired

outcomes. However, if society wishes to better understand, prepare for, cope with, or even avoid emergencies and disasters over the long term, there must be effective policy processes that operate within suitable institutional settings (Anderson, 2010:31). Anderson (2010:33) defines public policy as a purposive course of action followed by an actor or set of actors dealing with a problem or matter of concern. Stewart, *et al.* (2008), on the other hand, define public policy as a series or pattern of government activities or decisions designed to remedy specific social problems. This study focused mainly on policy in the public sector. The policy process is the total process of creating and forming a public policy (Stewart, 2008:67). Figure 2.1 below shows the elements to consider for a successful policy.

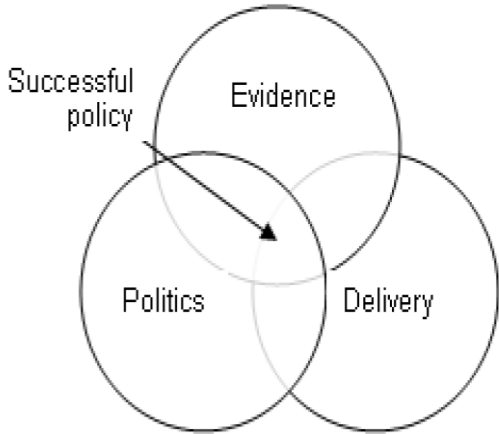


Figure 2-1 The policy-making process. Source: Hallsworth (2011:31)

Moreover, there are various activities involved in the policy process and these include setting the agenda (capturing the attention of the policymakers), formulating the proposal (devising and selecting policy options), legitimising policy (developing political support), implementing policy (creating bureaucracies, spending money, enforcing the law), and evaluating policy (finding out whether the policy works or not and whether it is popular) (Dye, 1984:25). Table 2.1 below outlines the important elements in the policymaking process.

Table 2-1: Important elements in the policy-making process

Problem identification
Problem articulation
Agenda setting
Policy formulation
Policy legitimisation
Programme design and development
Programme implementation
Programme evaluation
Policy reassessment
Policy change

(Source: Dubrick & Romzec, 1991:197)

In this section, the different stages in the public policy process are briefly discussed.

2.2.1. Problem identification and articulation

Solving any real life situation problem begins with the identification and defining the problem. This is also the case in the policy-making process. This is the stage where issues affecting the society are defined as problems and the stage at which solutions to such problems are identified. Ishola et al (2019) puts it, a public policy is a government action directed at solving a societal problem. In the public arena, public problems defines the policy-making efforts. Ishola et al (2019) further states that a policy is developed or formed due to an existing problem either concerning a certain group in a society or the generality of the citizens in a country. Issues that becomes problems are raised through media, advocacy organisations, politicians and ordinary citizens. According to Mintrom (2019), key considerations of the problem identification stage is to identify the current policy settings, identify the parties affected by the problem that need to be solved, the

resources that are needed for the resolution of the problem, what the problem is all about, quality of evidence concerning the problem and possible solutions and what are the existing solutions mechanisms on ground.

2.2.2. *Agenda Setting*

Agenda setting determines the order in which items are discussed when formulating policy (Cloete, *et al.* 2008:107). The agenda prioritises issues for attention by decision-makers. Agenda setting refers to both formal and informal methods and procedures for gaining access to and influencing policy processes and substance in government (Jones, 1984:57). Hogwood and Gunn (1984:67-68) listed the following factors as determinants of whether policy problems will appear on the policy agenda or not:

- The problem has reached the crisis point and can no longer be ignored by the government; the problem poses a threat to the society or country as a whole.
- The policy problem has reached a scorching point, e.g. climate change or dangerous incidents and hazards, which have effects that can no longer be ignored by countries.
- The problems contain an emotive aspect that attracts the media. Issues of life and death are often the driving force of agenda-setting.
- Issues that have a wide impact have a better chance of reaching the agenda status than low impact issues. The HIV/AIDS epidemic has had a devastating effect both nationally and globally, which can be felt in practically all spheres of human life.
- These issues raise questions about power relationships in societies. Those who have power in society have a better chance to influence the policy agenda than those without.

Influential role players in government and the community strong-arm their way into the important functions of formulating, implementing and designing policy and interfere with the setting of the agenda; hence, different societies follow different agenda-setting practices. These roles, played by influential people in the government, are also influenced by individuals in the communities during elections. Policy agenda setting is a crucial phase in public policy making for two reasons. Firstly, it determines how stakeholders

influence the policy agenda. Secondly, it determines who influences or controls the policy-making process (Cloete *et al*, 2006:105). The stakeholders' influence and control of the policy-making process determine the policy design used when formulating a government policy.

Role players in policy agenda setting

The previous section gave an overview of the factors that affect the agenda-setting. However, in this section, role players who influence the policy-making process are identified in the process of agenda-setting.

Elected political office bearers

In a democracy, elected representatives receive a mandate from the electorate to shape and give content to public policies (Cloete, *et al*. 2008:112). This includes the mandate to advance public view in the legislative and policy process. Political leaders often use speeches, media debates, and political campaigns to raise issues. This attracts mass support for issues, and once there is mass support it becomes difficult for role players not to address these issues (Cloete, *et al*. 2008:112). To make progress with setting the agenda, key decision-makers must consider the proposed policy as legitimate before it can be implemented (Brinkerhoff, *et al*. 2002).

Scheufele (2007:9) states that, while agenda setting explores and shapes the content raised by the media, certain issues are regarded more or less important for public attention. For example, in 2016 during the campaign of Hillary Clinton, researchers recognised non-stop media coverage of Hillary Clinton's emails. These emails supposedly contained details of Hillary Clinton bribing officials during the presidential race, but nothing was ever confirmed. It was therefore concluded that the media had framed her as a political office-bearer. The media is very powerful in setting the public agenda, and the way the media frames certain topics and events influence how we know what we know about the world around us. Framing goes back to Erving Goffman's (1974) theory and Etman's (2004:31) exploration of how to organise own experience. Etman's (2004:31) argued that life is experienced both in terms of how we receive and interpret it, and how we engage with it. What we consider "*reality*" depends on how we view life and how we approach, analyse, and understand the world around us. However, one of the great myths of a democratic society is that its members – when confronted with tough

problems such as the high cost of healthcare or lack of health insurance – ponder the problems carefully and express their preferences to their elected officials, who then factor these opinions into their decisions about how to address the problems through policy (Connolly, 2003:51).

Appointed officials

The appointed officials identify the agenda level and determine whether the problem is a public matter or not. Then the agenda level best suited to the issue must be decided. The officials then direct the problem to the strategic or operational agenda level, thus assessing the urgency and the nature of the problem (Cloete, *et al.* 2008:112). The officials determine whether an issue is sufficiently urgent to receive the agenda status or not and whether the problem brought to the attention of the officials should be in the public domain. Hence, according to Meter, *et al.* (1974), a policy must have clear, specific, measurable, attainable, rational and time-bound (SMART) goals and objectives. In addition to that, there must be consensus on the set goals and objectives as it is a critical feature of the policy-making process determined by the appointed officials. Connolly (2003:51) points out that, unless they are among the elected representatives, individual members of society usually do not have the opportunity to directly vote on policies. They do, however, have opportunities to vote on policymakers. Thus, policymakers are interested in what the individual members of society want, even when what they want is hard to discern. It is therefore important to determine whether the information collected by policymakers is sufficient and urgent before it is brought to the attention of the officials in the public domain.

Courts of law

The legal professions contribute to policymaking and agenda-setting by going beyond narrow interpretations of policy mandates (Cloete, *et al.* 2006:111). In their evaluation of public policy, they come in direct contact with the inherent policy, its weaknesses, and strengths (Cloete, *et al.* 2006:111). If a policy has to achieve good results and its weaknesses eliminated, resources must be mobilised in the appropriate directions. Mobilisation of resources includes preparation of complete plans, clarification of performance standards, and carrying out appropriate action plans. Bonneau *et al.* (2007:69) indicate that loss of control over the government's budget in the court of law,

which is the government's greater power to initiate regulatory initiatives, hampers with the court's power to set the constitutional agenda in a direction that will have a positive and negative outcome. This means that the interest groups that prevail in the political process which leads to court in a given case are not those that would prevail under a pinched reading of the Constitution. Over the long term, and after the courts of law have set the constitutional agenda, the flow of benefits and burdens from the modified constitutional dispensation is hardly predictable and does affect the inherent/formulated policy (Hansford & Spriggs, 2006). Moreover, it will not be clear from the long-term distributive patterns generated by rejecting changes to the constitutional law of agenda control, that the weaknesses and strength of public policy will be considered (Curtis, *et al.* 2012:417).

In judgements by government, judicial officials draw the attention of both the legislature and the executive issues for the public agenda. Courts of law thus play a crucial role in the agenda and policy-making processes (Cloete, *et al.* 2008:112). The courts must pursue their policy goals in an interdependent environment in which their decisions are also a function of the preferences of those they interact with (Bonneau *et al.* 2007). Most importantly, the government must interact with their colleagues in court. The requirement of having to acquire a majority to form binding precedent influences the behaviour of courts of law throughout the decision-making process (Maltzman, Spriggs, and Wahlbeck 2000). "*Sometimes the people just demand that the Supreme Court resolve an issue whether we really ought to or not and that does affect us sometimes. We just feel that the Supreme Court has to decide*" (Perry, 1991:259).

Interest groups

Membership of interest groups is dictated by the desire to access the policy agenda, and they exist as long as issues do not formally appear on the government's agenda or are not being prioritised once on the policy agenda (Jansson, 1994:107). According to Cloete *et al.* (2008:12), awareness groups in South Africa play an increasing role in influencing the public agenda. For example, women campaigned strongly against violence against women and children. Awareness groups also engage in the public hearing process in parliament and, by doing so, stay on the frontline of agenda-setting (Cloete, *et al.* 2006:114). Interest groups that work as frontline implementers are crucial assets in policy implementation. They need a commitment to policy objectives and should be skilled in

the use of available resources to achieve policy objectives since incompetent frontline implementers lead to implementation failure (Mazmanian & Sabatier, 1989).

Interest group members are implementers who must be motivated in their commitment and must receive the necessary training to prevent non-compliance on their part. Interest groups must enjoy sufficient preference in discharging their responsibilities but there should be a check and balance between excess and lack of discretionary power. According to Mazmanian *et al.* (1989), monitoring the behaviour of interest groups will guard against all sorts of non-compliance or misuse of power, or even the influence of other interest groups without similar objectives. Interest groups frequently play powerful roles in setting the nation's policy agenda, as they do subsequently in the development of legislation and the implementation and modification of national policies (Yankelovich, 1992). These groups sometimes play their role proactively by seeking to stimulate new policies that serve the interests of their members. Alternatively, they sometimes play their role reactively by seeking to block changes in public policies they believe do not serve the best interests of their members (Connolly, 2003).

Media

Media influences policy because of how news is covered in print and electronically (Conolly, 2003:151). In setting the agenda, the media influences the salience of topics and brings them into the public consciousness. That is if a news item is covered frequently and prominently the audience will regard the issue as more important. Mass media only shows what they consider important issues. Print or broadcast news then takes away the public's ability to think for themselves. Agenda-setting theory was formally developed in a study by Max McCombs and Donald Shaw of the 1968 presidential elections (Gitlin, 1980). Whereas the media is powerful and does not necessarily tell people what to think, it does play an important role in advocating for a particular position (Conolly, 2003:151). In other words, the media sets the public agenda. As researchers, we need to understand and respect this role. A lot can be learned about what the public considers more and less topically salient, and what that might mean for individual communication priorities. Therefore, understanding the specific tools and techniques the media uses to frame news, helps to understand how the media influences the public agenda (Etman, 2004).

The media has the advantage of resources and a passive audience, and through media, the public can be both educated and indoctrinated about policy issues (McInnes-Dittrich, 1994:89). Both education and indoctrination support issues of agenda-setting. Policy formulation covers a large area of the decision-making process and it includes long term strategies. Hence, the policy-making process must be fair and farsighted for designing and implementation to take place (Hanzl, *et al.* 2002). Participation and information of all involved parties should be regarded as important aspects to gain acceptable goals and for policy to be accepted. In South Africa, policies are made on national, provincial, district, and local levels. All these levels of policymaking are also reflected in the allocation of authorities and competence and the extent of impacts and effects (Hanzl, *et al.* 2002).

2.2.3. Policy formulation and design

The policy formulation process is important and is the part of the process during which proposed actions are articulated, debated, and drafted into a narrative suitable for a law or other policy statement (Isaacs & Irvin, 1991:42). Policy formulation includes setting goals and outcomes for policy or policies (Health Canada, 2003:11). The goals and objectives may be general or specific but should articulate the activities and measures for success. Moreover, policy formulation stands at the top of the planning process (Hanzl, *et al.* 2002). It is a strategic planning process that leads to general perception, and such planning is part of a political decision made. This includes a set of measures aimed at the future development of different government projects. It is important to note that policymaking does not take place in a vacuum; government must have total control of its agenda to eliminate discontinuous, and illogical decisions, as the government's coherent position can get overwhelmed by events. Cusworth, *et al.* (1993:11) postulates that not all events are the result of the external world affecting policymakers as some are 'self-generated' (Hallsworth, *et al.* 2011:6). Resilient institutional processes are necessary for good policymaking. The goal is not to simply design processes that reflect the reality of policymaking, but also to improve that reality. In other words, we need to bring the policy process closer to the real world and bring the real world closer to the policy process (Hallsworth, *et al.* 2011:15).

On the other hand, policy design as part of the policymaking process is what governments decide to do to counter a perceived policy problem in society (Cloete, *et al.* 2008:126). Furthermore, Cloete, *et al.* (2008:160) states that policy design is probably the most

important phase in the process of policy analysis, and it is imperative that the policy analyst, after clearly formulating the problem, determines precise goals, objectives and alternative policy options. It is therefore about the planning and development of policy content. The policy design process comprises the conversion of mainly intellectual and financial resources into a plan of action, including goal and objective setting, prioritisation, option generation and assessment (Cloete, *et al.* 2008:126). Given society's continuous development and change, government policy can never be complete in terms of its outcomes over time. Designing alternatives imply that the analyst should be creative and use his/her imagination to accomplish his/her goals and objectives with the policy.

The key to improving policymaking is to construct a more realistic process that is resilient to the pressures of both ministers and civil servants, and which enables them to achieve the right blend of politics and technocracy in policymaking. This is because policymakers may not be able to create a perfect process that is perfectly adhered to, but these policymakers can create a better one that is followed more often. In contrast, the policy-making processes are too brittle - they usually break rather than bend when put to the test (Hallsworth, *et al.* 2011:14). Cloete, *et al.* (2008:89) state that the policy formulation process in a developing country is much more constrained than in a well-developed country. Issues such as lack of infrastructure, expertise and trained manpower, and lack of funds seriously impede the capacity of the system concerned to achieve even the most basic objectives of a government (Dror, 1986). These objectives are formulated, designed, implemented and analysed by government think tanks. Thus, the best results are achieved by using diverse criteria and structure. McGann (2005:3) and Boucher (2004) identified the following criteria to kick start the process of policymaking:

- Mediate between the government and the public to help build trust and confidence in public officials;
- Provide an informed and independent voice in policy debates and public policy solutions;
- Identify, articulate, and evaluate current policy issues, proposals and programmes;
- Transform ideas and emerging problems into policy issues;
- Interpret issues, events and policies for the electronic and print media to facilitate public understanding of domestic and international policy issues;

- Provide a constructive forum for the exchange of ideas and information through networks and the public on policy-related issues;
- Provide personnel for the legislative and executive branches of government; and
- Challenge the conventional wisdom, standard operating procedures, and 'business as usual' attitudes of bureaucrats and elected officials.

It should, however, be noted that there is no single model to follow when engaging in policy formulation because the context determines the appropriate approach (Chowdhury, *et al.* 2006). Policies are influenced by the contexts in which they are developed, such as the content of the policy, the nature of the policy process, and the actors involved in the formulation process and implementation (Mthethwa, 2012). These contexts must guide policymakers during the policy-making process (McGann 2005). However, recommendations from different researchers can hamper the adoption of a policy and complicate the acceptance of the policy formulation process. It also becomes difficult when the policymaking contexts do not influence or provide the same impacts to the whole community during research, however it is the policy that makes the impact on the community (Abelson, 2000). Many researchers agree on the role coalitions play in shifting power and influencing policy (Zafonte, *et al.* 2004). The right balance between symbiotic interdependencies and congruent beliefs in terms of specific policy issues will determine which recommendations to be considered for which community during the policy formulation process (Fenger, *et al.* 2001). Trust between stakeholders in a department is key to successful policymaking and progress (Lubell, 2007). This trust, evolve over time and through multiple interactions, and it cannot be forced (Snowden, 2005). These interactions allow for a calmer policy-making process to produce a policy to benefit all affected communities (Table 2-1).

2.2.4. Policy implementation

Policy implementation is an important stage in the policy-making process and many scholars have defined it from various perspectives. It means the execution of a law in which various stakeholders, organisations, procedures, and techniques work together to put policies into effect to attain policy goals (Stewart *et al.*, 2008). Implementation can be viewed as a process, an output, and an outcome; and it involves several actors, organisations and control measures, starting with the identification of the needs of the

community through different types of planning (Moya, 2002:35). Implementation is the process of interaction between setting goals and the actions directed towards achieving them (Pressman & Wildavsky, 1973). Sabatier and Mazmanian (1979:540) define implementation as carrying out basic policy decisions usually contained in a statute, although also possible through important executive orders or court decisions. According to Mthethwa (2012:37), "*policy implementation refers to the mechanisms, resources and relationships that link policies to programme action*". Van Meter and Van Horn (1974:448) (cited by Cloete, *et al.*, 2008:181), explain that "*policy implementation encompasses those actions by public and private individuals (or groups) that are directed at the achievement of objectives outlined in prior policy decisions*". Moreover, Van Meter and Van Horn (1974:447-448), in Cloete, *et al.* (2008:181), make a clear distinction between the interrelated concepts of implementation, performance, impact, and stress. The same authors further observe that impact studies typically ask "*what happened?*", whereas implementation studies ask "*why did it happen?*"

Simon (2010) views implementation as the application of the policy by government administrative machinery to achieve the goals. The success of an adopted public policy is judged based on how successfully the policy is implemented (Khan, 2016). In this regard, even the best policies are worthless if they are not properly or successfully implemented (Khan, 2016). As Brinkerhoff and Hoff (2002) (cited in Khan, 2016) indicates, successful policy outcomes do not only depend on designing good policies but mainly on managing their implementation. Policy implementation forms one of the critical pillars policy management is based upon. This is because, without following the right process for implementing a policy, the policy itself will be of no value; successful implementation is the final test of a successful policy. Policy implementation is a multifaceted concept applied at various levels of government and pursued in conjunction with the private sector, civil society and NGOs (Cloete, *et al.* 2008:181) to put into action what has been formulated and designed by the government concerning policy in different government departments.

In South Africa, the South African Government Public Policy White Papers (1995 to 1997) state that one of the biggest challenges is to translate policy into practice following the period of large-scale developments in South Africa. No white paper or act provided officials with guidance, and practitioners and senior officials had to make a specific

attempt to translate policy for the executive through operational guidelines or operational policy. According to Edwards and Sharkansky (1978:295), the first requirement for effective implementation is that those responsible for carrying out a decision know what they are supposed to do. In this regard, orders to implement policy must be consistent, clear, and accurate in specifying the aims of the policy (Edwards and Sharkansky, 1978:295). This would guide and inform decision-makers on the model to use when implementing policy.

According to Cloete *et al.* (2008:182), operational guidelines for policy implementation of the Integrated Development Plans (IDPs) served as a basis for multi-year, multi-sectoral planning for policy implementation at the local government level. In turn, the plans of local government for operational guidelines are used for decentralised units such as government departments (in the case of water and management agencies) during implementation. Therefore, meaningful planning in terms of implementation takes place at programme and project level, such as which model to use when there are so many researched models available for implementing policy (Matland, 1995:150). It should, however, be noted that different stakeholders have divergent perspectives on what constitutes successful policy implementation (Matland, 1995:150). A top-down approach emphasises the faithfulness with which implementation adheres to the policymakers' intentions (Sabatier 1986:28). This approach is characterised by its hierarchical and control themes. The top-down approach is also known as the rational or systems model. The aim is to improve performance, thus to achieve the institution's goals. The policy is an independent variable, a starting point, and a benchmark that can and should be controlled by sanctions (Jordan 1995:6)

In the top-down approach, all decisions are made by the executive team (managers at the workplace) and the inputs of employees at the grassroots level are not considered. Programmes are designed and executed even though they do not meet the needs of the individuals at the bottom.

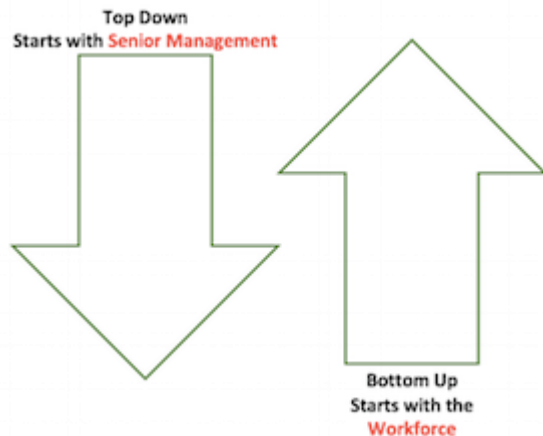


Figure 2-2: Top-Down & Bottom-Up Approaches to Implementing Change (Brynard 2007:37).

A bottom-up approach argues for local implementers to adapt policy strategies to meet local needs and concerns (Palumbo, *et al.* 1990:53). The bottom-up approach involves all employees; their inputs and needs about programmes implemented at the workplace are important. These needs and inputs help to design the final product after all the employees who will use the programme are the ones who know what the programme needs to be successful. The problem in this process is that it takes longer for implementation to take place. The information must be gathered, evaluated and collaborated with several team members to start implementing change (Brynard, 2007:37).

The bottom-up approach was developed as a critique of the top-down approach. Implementers of this approach – also known as street-level bureaucrats (Brodkin 2000:31) – seek to achieve greater allegiance between policy-making and policy delivery. The policy is dependent upon the interaction among actors in the local sphere. The aim is to explain what happens when policies are implemented. These two perspectives can result in very different strategies and outcomes (Brynard, 2007:38). The top-down model focuses mainly on the authoritative policy decision making at the central top level of government. However, the bottom-up approach focuses on implementation from the community or ordinary society to the level of the government. Both these approaches demonstrate significant strengths and weaknesses in the outcomes delivered, and each may be more relevant to a particular issue than the other, as indicated before.

Until the early 1970s, implementation was considered unproblematic and was regarded as simply putting the policy into practice. This viewpoint changed over time with the unclear goals and objectives set. If and when these goals and objective were well established, then the implementation process would be successful and evaluation would yield a positive result (Brynard 2007:37). Policy evaluation assesses the methods and procedures used to implement policy during the policy-making process. Hence, systematic policy planning, design and implementation are to improve the quality of policy outputs and outcomes, which will be of no avail if one is unable to assess whether one has hit the intended target or missed it. Evaluation is required to decide whether to continue with a policy project/programme, terminate it, or expand it (Cloete *et al*, 2006:246).

2.2.5. Policy evaluation

Policy evaluation is an essential part of the rational policy process to ascertain whether a policy is effective or not (Cloete, *et al*. 2008:281). It is clear that to maximise the impact of a policy, one has to determine the results as accurately as possible. This can only be done through a systematic policy evaluation or assessment. According to Fox and Meyer (1995:45), policy evaluation is the use of policy analytic research methods to measure performance programmes so that the continuous change in activities can be determined with a view to improving effectivity. This is particularly important in terms of their impact on the conditions they are supposed to change, the systematic measurement of performance in terms of specific policies, guidelines and procedures, passing judgement on others, assessing blame or praise, and the use of research techniques to measure the past performance of a specific programme. The performance of a programme is gauged particularly in terms of the impact of the programme on the conditions it seeks to modify to change the operation of the programme to improve its success in achieving its objectives (Cloete, 2006: 247).

Policy evaluation determines the value or effectiveness of activity for the purpose of decision making (Shafritz, 1998:818). However, Howlett and Ramesh (1995:168) state that policy evaluation refers broadly to the process of finding out about a public policy in action and the objectives being served. The depth and thoroughness of the evaluation depend on those ordering its initiation and/or those undertaking it. According to Posavac and Carey (1980:8), policy evaluation is undertaken for the following reasons:

- To measure progress towards the achievements of policy objectives;
- To learn lessons from the project for future policy review, redesign or implementation strategies;
- To test the feasibility of an assumption, principle, model, theory, proposal, or strategy;
- To provide political or financial accountability;
- To better advocate a cause; and
- For public relations purposes.

This is because those who observe and analyse policymaking are often even more critical than the others. "Policy scientists have documented time and again that policymakers fail to accomplish their objectives; that policies can have serious unintended effects; and that efficiency is not exactly the guiding principle in many public sector programmes and organisations" (Hallworth, *et al.* 2011: 17). However, an evaluation does not need to be complex and costly; the available funding, resources, information and time will determine the quality of the evaluation results (Cloete, *et al.* 2008:274). Hallworth, *et al.* (2011:17) states that the analysis is concluded when there is simply too much policy, and the analysis is often wrong the first time. The analysis is therefore rooted in separate government departments, even when the issues are supposed to be the same. The policy-making function will need to change – both in what it does and in the way it is organised. The mismanagement of finances and budget given to the policymakers during the policy-making process will hamper with the policy analysis process if not skilfully managed.

The government cannot afford to spend financial resources on services or welfare programmes that do not have the desired outcomes. It is therefore imperative that the analyst, when designing and choosing alternative options, take serious note of the cost-benefit and cost-effective value of particular options (Cullis, *et al.* 1992:147). Each alternative is therefore assessed in terms of its monetary costs and the monetary value of its benefits, which further implies that each alternative can be examined according to its merits to see if it is worthwhile. The following four steps must be followed for the process of policy analysis to take place and yield a positive result (Anderson *et al.*, 1979:2):

- Identification: identifying and listing all the various effects of a proposed budget during policy formulation.
- Classification: classifying the various effects of economic efficiency benefits and costs.
- Quantification: quantification of both the economic efficiency benefits and the costs and income distribution impacts of the project.
- Presentation: presenting the relevant information reasonably simply or in a form that spells out the important assumptions underlying the analysis and the implications of those assumptions for the study conclusion.

In this regard, cost-benefit analysis is indeed a practical way of assessing and analysing the desirability of government programmes and considering future glitches that might occur, as well as assessing and evaluating all relevant costs and programme benefits. These glitches can only be eliminated through thorough planning, formulation, design, implementation and evaluation of the public policy-making process. Table 2.2 below identifies the policy evaluation process.

Table 2-2: Policy evaluation process (Source: Adapted from Patton and Sawicki, 1986:37)

Steps in the process	Method
All steps	Identify and gather data Interview for policy data Basic data analysis Communicate the analysis
Verifying, defining and detailing the problem	Quick decision analysis Creation of valid operational definitions Political analysis The issue of paper cut analysis
Establishing evaluation criteria	Technical feasibility Economic and financial possibility Political viability Administrative operability

Identifying alternatives	Researched analysis Literature review Brainstorming Modifying existing solutions
Evaluating alternative policies	Theoretical forecasting Sensitivity analysis Allocation formulas Quick decision analysis
Displaying alternatives and selecting from them	Scenario writing Implementation analysis Political analysis Standard alternatives methods
Monitoring and evaluating policy outcomes	Before and after comparison Experimental models Actual versus planned models Cost-oriented approaches

Once the decision to proceed with the evaluation process has been taken, the policy-making process now becomes clear and its outcomes valued by different policymakers. The focus of this study is on Education and Disaster Risk Management Policies and for the mainstreaming of the DRR policy into the framework of the education policies.

2.3. CHALLENGES AND DEFICIENCIES OF POLICY FORMULATION AND IMPLEMENTATION

Abrupt and unexpected change – including emergencies and disasters – challenge standard policy processes and policy settings and the patterns of thought that underpin these, throw policy processes and institutions into chaos, devastate lives and communities, and even cause governments to fall. The scale of a single event can make this inevitable, and sometimes the impression is that policy systems should have been better prepared (Handmer, 2007:29). Dye (1984:35) states that time constraints, not

having enough information and costs, prevents policymakers from identifying the full range of policy alternatives and their consequences. Constraints of politics prevent the establishment of clear-cut societal goals. Pub, (1984) state that the sad stories related to the scholarly literature on policy implementation serve as testimony to this shared weakness. Another challenge may be demanded by citizens for redistribution, which further complicates implementation because the public official is forced to pay more attention to political factors. Professional values such as service efficiency, effectiveness, and impact become lower priorities (Pub, 1984:174). Other examples of deficiencies in policies include limited outlooks and attitude towards the future, behaviour that seeks instant gratification, and low intellectual abilities. When implementation is started, there are sure to be mistakes in both the criteria selected and the institutional arrangement. To fulfil the iterative process, procedures for constant monitoring of policy consequences and subsequent reformulation of policies and programmes are necessary. Therefore, policies must be implemented to be tested and to improve social modelling. If social modelling is not ongoing, guidance will not be available for the democratic policymakers (Pub, 1984).

2.4. CONCLUSION

Policy development, implementation and evaluation must be consolidated so that a more coherent policy and strategy system with ongoing review and performance management mechanisms are developed. Strategies and expectations have been outlined to overcome failure or delay in the policy-making process. Successful policy formulations are vital because it provides the necessary quality for the implementation and design of the same policy discussed in this chapter. Discussion of the literature revealed the power and impact of the policy-making process on the government and the community. In most cases, these adverse effects leave many communities in unfavourable conditions for long periods. Then again, when followed and adhered to (explained well), these effects govern and give direction to a positive way of living. During policy-making, advantages and disadvantages are outlined towards the end of policy-making, during the policy evaluation and assessment processes. Policy assessment is preceded by policy development, the policy-making process, and policy design and implementation.

CHAPTER 3: MAINSTREAMING DISASTER RISK REDUCTION

3.1 INTRODUCTION

Chapter 1 provided an orientation and the context of the study, and Chapter 2 explored the existing body of knowledge regarding policy formulation, implementation and analysis. The purpose of this chapter (Chapter 3) is to review the literature on mainstreaming Disaster Risk Reduction (DRR) and focuses on the origin of the concept of DRR, international frameworks for DRR, implementation of DRR measures in South Africa, and the importance of mainstreaming DRR into sectoral plans and mainstreaming of DRR into the policies of the education sector. In the process, the chapter addresses the second and third objectives of the study, i.e., to outline the importance of mainstreaming DRR into the policies of the education sector, and to assess how DRR can be mainstreamed into the policies of the education sector. The chapter is structured as follows: the section after the introduction tracks the evolution of the concept of DRR, after which the international frameworks for DRR are reviewed. The chapter then narrows the focus of implementing DRR to the African continent, the SADC region, and the Republic of South Africa. Before providing conclusions, the chapter highlights the significance of mainstreaming DRR into sectoral plans with particular emphasis on the mainstreaming of DRR into the policies of the education sector, which is the focus of this study.

3.2 THE EVOLUTION OF THE CONCEPT OF DISASTER RISK REDUCTION

Historically, dealing with disasters was focused on emergency response; but towards the end of the 20th century, it was increasingly recognised that disasters are not natural (even if the associated hazard is) and that it is only by reducing and managing the conditions of hazard, exposure, and vulnerability that losses can be prevented and the impact of disasters reduced (UNDRR:2015). Since the severity of natural hazards cannot be reduced, the main opportunity for reducing risk lies in reducing vulnerability and exposure (UNISDR, 2015a). According to Aini and Fakhrul-Razi (2010), a disaster refers to an emergency caused by various hazards (i.e. natural, technological and biological) or human-induced actions that result in a significant change in circumstances over a relatively short period. Typical examples of disaster impacts include death, displacement, disease, loss of life, damage to physical and service infrastructure, depletion of natural

and social capitals, institutional weakening, and a general disruption of economic and social activity (Hayles, 2010). However, disasters can be managed through Disaster Risk Management (DRM). Disaster Management, as defined by the UNDP (1992:21), is “*the body of policy and administrative decisions and operational activities which pertain to the various stages of a disaster at all levels.*”

Since the dawn of the twenty-first century, the focus has shifted towards addressing disaster risk. According to the UNISDR (2009), the term disaster risk refers to the potential (not actual and realised) disaster losses, in lives, health status, livelihoods, assets and services, which could occur in a particular community or society over some specified future time. Disaster risk is an indicator of poor development, so reducing disaster risk requires integrating DRR policy and DRM practice into sustainable development goals (Van Niekerk, 2011). To determine disaster risk, three aspects need to be present: a hazard, vulnerability to the hazard, and some form of coping capacity (Van Niekerk, 2011). This means that a natural hazard will never become a disaster in areas without vulnerability.

With disaster incidences and impacts on the rise, disaster risk reduction has been adopted as a measure for reducing the risk and impacts of disasters. Disaster risk reduction (DRR) includes the systematic development and application of policies, strategies and practices to prevent or prepare for hazards, or to mitigate their adverse effects (UNISDR, 2010b). Disaster risk reduction (DRR) is the policy objective of anticipating and reducing the risk of disasters (UNDRR, 2015). Disaster risk reduction (also referred to as just disaster reduction) is defined as the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for hostile effects (UNDP, 1992).

The Department for International Development (DFID, 2005) divided DRR measures into five categories:

- policy and planning measures;
- hazards and risk reduction in unsafe environments;

- structural methods – concentrating on socio-economic factors and demographic characteristics with a focus on cultural and traditional perceptions of vulnerability;
- organisational dimensions that focus on
- the effectiveness of preparedness, response, recovery, and management operations.

Disaster reduction strategies include, primarily, vulnerability and risk assessment, as well as several institutional capacities and operational abilities. The assessment of the vulnerability of critical facilities, social and economic infrastructure, the use of effective early warning systems, and the application of many different types of scientific, technical, and other skills are essential features of disaster risk reduction (UNDRR:2015). According to USAID (2011), DRR is a part of sustainable development, so it must involve every part of society, government, non-government organisations, and the professional and private sector. It, therefore, requires a people-centred and multi-sector approach, building resilience to multiple, cascading and interacting hazards, and creating a culture of prevention and resilience. UNISDR (2015a) indicates that DRR includes strategies designed to:

- avoid the creation of new risks
- address pre-existing risks
- share and spread risk to prevent disaster losses being absorbed by other development outcomes and creating additional poverty.

Although often used interchangeably with DRR, disaster risk management (DRM) can be thought of as the implementation of DRR, since it describes the actions that aim to achieve the objective of reducing risk. Although DRM includes disaster preparedness and response activities, it is about much more than managing disasters, and reducing the risk of many disasters from occurring (UNISDR, 2015a). Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness (UNISDR, 2009). The interaction between disaster risk reduction and disaster risk management is clear. Disaster risk reduction concerns activities more focused on a strategic level of management, whereas disaster risk management is the tactical and operational implementation of disaster risk

reduction (Van Niekerk, 2011). In this regard, International frameworks play an important role to guide efforts to reduce the risk and impacts of disasters. Section 3.3 below, briefly presents the international frameworks for DRR.

3.3 INTERNATIONAL FRAMEWORKS FOR DRR

The framework of action described in the documentation of the UN's International Decade for Natural Disaster Reduction provides all vulnerable countries, developing countries in particular, with the opportunity to achieve a safer world by the end of this century and beyond. In this regard, the international community and the United Nations must provide adequate support to the International Decade for Natural Disaster Reduction (UN, 2000). This is because global social stability has become more fragile and a reduction in natural disasters would contribute to reducing this fragility. Global assistance will be required to prevent new risks. In the effort towards effective disaster management, full relief through recuperation, reconstruction and development to prevention must be the principles guiding actions towards the reduction of human and physical losses, which remains the ultimate objective (IDNDR, 2000). After the 2004 Indian Ocean tsunami, the international community recognised the lack of disaster preparedness from not having a proper warning system in place, which failed to mitigate harm to the people in disaster-stricken regions. Hence, all over the world, there has been a series of disasters that have wrought devastation on lives and resources. (Giuliani *et al.*, 2009). According to UNISDR (2015a), more should be done to prevent new risks, which are already emerging owing to increasing urbanisation, the threat of climate change and other risk drivers. In an increasingly interconnected world, disasters can also result in synchronous failures. Development can be sustainable globally, it is just a question of whether the approach can be changed in time to prevent disaster risk from reaching dangerous levels.

The emphasis on Disaster Risk Reduction (DRR) has gained global attention due to substantial increases in the incidence and impact of disasters causing huge human and economic losses (Jayaraman, 2015:10). Jayaraman (2015:11) states that, due to disasters and their devastating impacts, infrastructure and livelihoods suffer frequent damages on a large scale, worsening poverty and the growing disparity amongst individuals and adversely affecting the very process of sustainable development itself. Therefore, disaster risk reduction emphasises its goal of reducing disaster risks by building capacity and increasing the resilience of communities at risk, thus enhancing

their security and wellbeing. This can be done through increased diverse government commitment to implementing disaster reduction policies and programmes (Van Niekerk, 2011:45). In July 1999, the International Strategy for Disaster Reduction (ISDR) was adopted during the International Decade for Natural Disaster Reduction (IDNDR) Programme Forum held in Geneva. This was ratified by the United Nations' Economic and Social Council (ECOSOC) and UN General Assembly during the second meeting of its Commission on Sustainable Development, and a resolution to that effect was adopted (IDNDR,1999).The ISDR 1999 had the vision to enable all communities to become resilient to the effects of natural, technological and environmental hazards, reducing the compound risks they posed to social and economic vulnerabilities within modern societies. It emphasized the need to proceed from protection against hazards to the management of risk through the integration of risk prevention into sustainable development.

The international community accepts the need to share the necessary technology to prevent, reduce and mitigate disaster; this should be made freely available promptly as an integral part of technical cooperation. Thus, environmental protection as a component of sustainable development consistent with poverty alleviation is imperative in the prevention and mitigation of disasters (UNISDR, 2004). Moreover, the Yokohama Strategy and Plan of Action for a Safer World was adopted in 1994 at the World Conference on Natural Disaster Reduction Conference held in Yokohama, Japan. As resolved at the 1994 World Conference on Natural Disaster Reduction, the strategy is about defending individuals from physical injuries and traumas, protecting property, and contributing to ensuring global progress and stability. According to the UN (1994), the idea is to involve the community and their active participation should be encouraged to gain greater insight into the individual and collective perception of development and risk, and to have a clear understanding of the cultural and organisational characteristics of each society as well as of its behaviour and interactions with the physical and natural environment. This knowledge is important to determine the things that favour and hamper prevention and mitigation. The knowledge is important to encourage or limit the preservation of the environment for the development of future generations and to find effective means of reducing the impact of disasters.

After the adoption of the Yokohama strategy, the international community adopted a 10-year plan to make the world safer from disasters at the World Conference on Disaster Reduction in Hyogo, Japan, in January 2005. As a result, the Hyogo Framework for Action (HFA) was accepted and endorsed by all UN members at the conference. The Hyogo Framework for Action became the global blueprint for disaster risk reduction to substantially reduce the loss of human lives and socio-economic assets. Its objective is to tackle the challenges of disaster prevention, management, and reduction on the continent (HFA, 2005-2015). At the heart of the HFA is the concept of Disaster Risk Reduction (DRR). DRR contemplates that effective strategies aimed at minimising the consequences of disasters must be activated well before a disaster strikes; in other words, it is crucial to shift the focus away from merely responding to disasters and to focus particularly on activities of disaster prevention and preparedness (Chagutah, 2009). The core of the Hyogo Framework for Action 2005–2015 (HFA 2005) consists of three strategic goals, several guiding principles, five priorities for action (PAs), and considerations for implementation and follow-up. According to Giuliani *et al.* (2009), the HFA sought to tackle the challenge of unpreparedness for disaster, doing away with the traditional contrast between natural and human-induced disasters.

At the end of the ten years of implementing the HFA, the international community to review the progress achieved and adopt a successor framework to be implemented in the next fifteen years. In this regard, the Sendai Framework for Disaster Risk Reduction (2015–2030) was adopted by UN member states in March 2015 at the third World Conference on Disaster Risk Reduction held in Sendai, Japan, and this was endorsed by the UN General Assembly in June 2015. The Sendai Framework for Disaster Risk Reduction aims to achieve, a substantial reduction of disaster risks and loss of lives, livelihoods, and health; and the economic, physical, social, cultural, and environmental assets of people, businesses, communities, and countries by preventing new disaster risks and reducing existing ones through the implementation of integrated and inclusive measures that strengthen resilience over the period 2015 -2030 (SFDRR, 2015:2). According to UNISDR (2015:18), the Sendai Framework sets four specific priorities for action, and seven global targets.

In African, the implementation of disaster risk reduction is guided by the African Union Commission (AUC) through frameworks such as the Africa Regional Strategy for Disaster

Risk Reduction (ARSDRR, 2004), the Programme of Action for the implementation of Africa Disaster Risk Reduction Strategy, (2005) and the Plan of Action (PoA) for the implementation of Sendai Framework for Disaster Risk Reduction. The Africa Strategy for Disaster Risk Reduction (ASDRR) was adopted in 2004 by the African Ministerial Conference on Environment (AMCEN) and endorsed by the African Union Assembly Summit (AUAS) in July 2004 (USAID, 2004:48). Although the African Strategy was developed before the HFA, the goals of both the global framework and the African regional framework are consistent.

According to Van Niekerk (2011), the Programme of Action aims at extensive reduction of social, economic and environmental impacts of disasters on African people. The Programme of Action places a great deal of emphasis on governance through clear identification of operational mechanisms, and the definition of roles and responsibilities. Moreover, the Programme of Action for the implementation of the Africa Disaster Risk Reduction Strategy was developed in 2005 as a directive of the African Union Summit, which called for a programme of action to implement the African Regional DRR strategy. The African Strategy for DRR aims to contribute to the fulfilment of sustainable development and poverty eradication by facilitating the integration of disaster risk reduction into development (ARSDRR, 2004). In efforts to contextualize the implementation of the SFDRR on the African continent, the AUC and its member states have adopted the Plan of Action for the Implementation of the Sendai framework (PoA). Over and above the seven targets of the SFDRR, the PoA set additional five targets to be achieved during the period of the SFDRR (AUC, 2016). These are:

- Substantially increase the number of countries with DRR in their educational systems at all levels; both as standalone curricula and integrated into different curricula;
- Increase integration of DRR in regional and national sustainable development, and climate change adaptation frameworks, mechanisms, and processes;
- Substantially expand the scope and increase the number of sources for domestic financing in DRR;
- Increase the number of countries with risk-informed preparedness plans as well as response, and post-disaster recovery and reconstruction mechanisms; and

- Substantially increase the number of regional networks or partnerships for knowledge management and capacity development, including specialised regional centres and networks.

In line with international frameworks and frameworks adopted on the African continent, Regional Economic Communities (RECs) are expected to develop and adopt frameworks to address disaster risk within their context. In this regard, the Southern African Development Community (SADC) has developed several frameworks including,

3.4 DISASTER RISK MANAGEMENT: A SOUTH AFRICAN PERSPECTIVE

Disaster risk reduction in South Africa developed from a historical culture of civil defence (Cronje, 1993). Established in the height of the Second World War, the civil defence never reached the institutional significance and importance in South Africa it did in Europe. It was not until 1965 when emergency planning was established as an independent department in the South African public sector, that civil defence gained more traction. With the promulgation of the Civil Defence Act (39/1966), a Directorate Civil Defence was instituted. The Civil Defence Act mainly focused on establishing civil defence as a function of the national government and, accordingly, many local and provincial authorities refrained from rendering civil defence services. In 1969, the Directorate Civil Defence was moved to the Department of Defence (Potgieter, 1980) as it was argued that, due to the vast resources of the National Defence Force, civil protection would be able to function more effectively (Du Plessis, 1971).

Shortly after the election of the first democratic government in South Africa in April 1994, the Western Cape Province experienced severe flooding in various informal settlements (Molekwa, 2013). These floods provided the impetus for a process of developing new disaster management legislation applicable to all in South Africa (Molekwa, 2013). Until June 1994, South Africa did not have a holistic approach to deal with disasters and issues of risk (South Africa Disaster Risk Reduction, 1998). Until then, South Africa had followed the traditional trend that viewed disasters as 'acts of nature' – inevitable events that could not be predicted or avoided (Molekwa, 2013). Owing to this belief, the approach to deal with such disasters focused solely on reactive measures. In other words, the focus was only on post-disaster measures designed to deal with the consequences or adverse effects of a disaster without proper planning for before and during the disaster (Molekwa, 2013). Then, in 1997, the South African government established an Inter-Ministerial

Committee for Disaster Management (South Africa Disaster Risk Reduction, 1998). This showed the government's commitment to disaster reduction and to making South Africa a safer place for all (Molekwa, 2013).

South Africa, like many other developing countries, is also and constantly confronted by human-induced disasters (Republic of South Africa, 2005:1). Therefore, its objective is to adopt a new developmental approach in line with global trends by integrating risk reduction methodologies into developmental initiatives to build resilience in households, communities, and areas known to be at risk (Le Roux, 2013:2). In South Africa, DRM (disaster risk management) is now regarded as 'everybody's business', emphasising the responsibilities of all role players, especially those historically associated with DRM. Ginige, *et al.* (2009) states that the development of disaster management structures in South Africa gradually occurred within the provincial and the local sphere of government. The need to implement such mechanisms was spontaneously recognised by several provinces and municipalities even before the promulgation of the new legislation in the Disaster Management Act of 2002. This is evident in the establishment of disaster management structures in municipalities such as the then Western District Council (now Cacadu District Municipality) in the Eastern Cape, the West Rand District Municipality in Gauteng, and the disaster management centre in the City of Cape Town, which may never have had disaster management centres if not for the 2002 legislation.

Therefore, disaster risk management has to be based on an effective institutional plan and framework that ensures that all segments of the community are involved (Rahman, 2002). Communities have to work with governments to ensure that risks are mitigated (Shaw, Matsuoka & Tsunozaki, 2010:10; UNISDR 2010:3). This means that governments have to involve the community in the DRM process to ensure that the community buys into the activities of the process (Kemp 2008:99; UNISDR 2004a:4). Governments have to carry the primary responsibility for the wellbeing of communities by supplying them with a legal and institutional framework for DRM and by defining clear responsibilities and ensuring that various agencies on national, provincial and local levels coordinate their efforts (Briceño, 2006:8). Community participation is encouraged in several development areas, including DRM (Buckland & Rahman, 1999) and this is also the case in South Africa (2003). In reality, practical guidance and the involvement of communities is limited and local organisations and people are the main role players in DRM (Mercer *et al.*,

2008:174). GNDR (2009:3) states that, during the remaining part of the decade, all countries – especially South Africa – are called upon to use the following principles regarding DRR in the communities:

- Express the political commitment to reduce their vulnerability through declaration, legislation, policy decisions and action at the highest level, which would require the progressive implementation of disaster assessment and reduction plans at national and community levels;
- Encourage continued mobilisation of domestic resources for disaster reduction activities;
- Develop a risk assessment programme and emergency plans focusing efforts on disaster preparedness, response and mitigation, and design projects for sub-regional, regional and international cooperation, as appropriate;
- Develop documented comprehensive national disaster management plans with an emphasis on disaster reduction:
- Establish and/or strengthen National Committees for the Decade or identified bodies charged with the promotion and coordination of disaster reduction actions;
- Take measures to upgrade the resistance of important infrastructure and lifelines;
- Give due consideration to the role of local authorities in the enforcement of safety standards and rules and strengthen the institutional capacities for natural disaster management at all levels;
- Consider making use of NGO support for improved disaster reduction at the local level;
- Incorporate disaster reduction prevention or mitigation in socio-economic development planning based on the assessment of the risk;
- Consider the possibility of incorporating Environmental Impact Assessments in their developmental plans with a view to disaster reduction;
- Identify specific disaster prevention needs that may benefit from knowledge or expertise from other countries or the United Nations, for instance, through training programmes designed to enhance human resources;
- Incorporate cost-effective technologies in disaster reduction programmes, including forecasting and warning systems;

- Establish and implement educational and information programmes aimed at generating general public awareness, with special emphasis on policymakers and major groups, to ensure support for effective disaster reduction programmes;
- Enrol the media as a contributing sector in raising awareness, providing education, and shaping opinions to increase recognition of the potential of disaster reduction to save human lives and protect property;
- Set targets that specify how many distinct disaster scenarios could reasonably receive systematic attention by the end of the decade;
- Stimulate genuine community involvement and empowerment of women and other socially disadvantaged groups at all stages of disaster management programmes to facilitate capacity building, which is an essential precondition for reducing the vulnerability of communities to natural disasters;
- Aim for the application of traditional knowledge, practices and values of local communities for disaster reduction, thereby recognising these traditional coping mechanisms as a valuable contribution to the empowerment of local communities and the enabling of their spontaneous cooperation in all disaster reduction programmes.

According to the Disaster Management Act (Act 57 of 2002) disasters know no boundaries, and plans and strategies should be finalised in conjunction with neighbouring municipalities and higher or lower spheres of government to reduce, where practical, potential disaster risk.

3.4.1. Policies and legislative framework for DRR in SA

The South African government has over the years established policies and legislative tools to reduce the risk of disasters. These DRM policies and legislative frameworks have certain implications for vulnerable communities and operational activities at a local level (Vogel, 1998; Backenberg & Viljoen, 2003). According to Van Niekerk (2011), the Disaster Management Act (DMA) specifies that the National Disaster Management Framework (NDMF) of 2005 must recognise the types and severity of disasters, hazards and risks that can occur in the whole of South Africa. The framework should prioritise developmental measures that will reduce the vulnerability of disaster-prone areas, communities at risk, and vulnerable households (DMA, 2002; NDMF, 2005). The Act in section A indicates that the National Disaster Management Framework (NDMF) must

guide the development and implementation of the concept of disaster management. The NDMF should aim at ensuring an integrated and common approach to disaster management by all spheres of government, NGOs, the private sector, and communities. It should also aim to facilitate the implementation of disaster management standards in South Africa as a whole by doing the following (DMA, 2002):

- Identifying potential threats that can undermine the success and sustainability of development, making it possible to incorporate risk reduction measures into project design before implementation;
- identifying high-risk periods and conditions; and
- activating response and preparedness actions.

UNISDR (2004b:127) points out that national, provincial, district and municipal structures are positioned to reduce the loss of human lives and financial costs of disasters. The reason is that local governments are more directly linked to important community services. As such, local government should be organised in a way that the issue of DRM is part of the broader development goals. Also, the appropriate institutional arrangements for DRM should ensure that the local government sphere and personnel working in DRM are capable of implementing strategies, policies, programmes and projects in a way that contributes to the reduction of vulnerability of households and communities (World Bank 2005).

Disaster Management Act 57 of 2002

Disaster management in the South African context is defined by the Disaster Management Act 57 of 2002 as a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at:

- preventing or reducing the risk of disasters;
- mitigating the severity or consequences of disasters;
- emergency preparedness;
- rapid and effective response to disasters;
- post-disaster recovery and rehabilitation

The South African Disaster Management Act 57 of 2002 heralded in a new era in the way in which South Africa perceive disaster risk, hazards and vulnerability. As one of the most valuable pieces of legislation promulgated in South Africa (Carrim, 2003), the Act brings

the functions and activities of disaster risk management into the backyard of every province, metropolitan, district and local municipality. It calls for the establishment of structures, frameworks, plans, procedures, and strategies that cut across all government sectors. The Act also introduces a new way of managing the complex and perilous South African society (Disaster Management Act, 2003). It further makes provision for the responsibility of managing disaster risk to the highest political authority in each sphere of government (i.e. local, provincial and national) (Disaster Management Act, 2003).

The national centre outlines are objective, which is to promote an integrated and coordinated system of disaster management with an emphasis on prevention and mitigation, by national, provincial, and municipal organs of state, statutory functionaries, and other role players involved in disaster management and communities (DMA 57 of 2002). That being so, the Disaster Management Act provides the ideal legislative framework not only to enable the holistic approach referred to earlier but to entrench the commitment of the South African government to disaster risk reduction through sustainable development within the realm of co-operative governance including schools both primary and secondary schools (Disaster Management Act, 1996). Disaster management manages all disasters by putting in place the procedures and mitigation process that minimises the risk of disasters in the communities and the vulnerable people live in.

National Disaster Management Framework 2005

According to the South African Disaster Management Act (SADMA 57 of 2002, section 26(1):14,), the National Disaster Management Framework is "...a legal instrument to address such needs for consistency across multiple interest groups, by providing a coherent, transparent and inclusive policy on disaster management appropriate for the Republic as a whole..." (SADMA) 2004:7; SADMA 2003, Section 6). The South African National Disaster Management Framework introduced by the NDMC (National Disaster Management Centre) (2005), highlights that South Africa is exposed to a wide range of hazards such as droughts, cyclones, severe storms, severe floods and wildfires, and further points out that large numbers of people live in conditions of chronic disaster vulnerability in underserved, ecologically fragile and marginal areas. This wide range of hazards could be the result of human-induced disasters. Mulegeta *et al.*, (2007) identifies human-induced disasters as air and water pollution, gas flaring and small-scale mining

accidents, toxic waste disposal, land degradation, conflict-related hazards, and climate change as the most prevalent disasters mostly occurring within sub-Saharan Africa. These human-induced disasters can be minimised or managed through disaster key performance areas and enablers found within the disaster management framework.

The National Disaster Management Framework is divided into four key performance areas (KPAs) and three enablers (SANDMA 2005:2). Each of the key performance areas is informed by specific objectives (to guide and monitor progress) as set out in the Disaster Management Act. The three enablers are aspects that need to be present in all four of the key performance areas for them to be implemented successfully. These enablers will support the implementation of the framework in all spheres of government. To measure the successful implementation of the different key performance areas, the framework specifies that each key performance indicator (KPI) has a supporting enabler. The key performance areas and enablers are:

- KPA1: Integrated institutional capacity for disaster risk management
- KPA2: Disaster risk assessment
- KPA3: Disaster risk reduction
- KPA4: Response and recovery

Key performance areas focus on establishing the necessary institutional arrangements for implementing disaster risk management within the national, local, and municipal spheres of government (DRM 57 of 2002:50).

- Enabler 1: Information management and communication
- Enabler 2: Education, training, public awareness and research
- Enabler 3: Funding arrangement for disaster risk management.

The framework must establish prevention and mitigation as the core principles of disaster risk management (DRMA, 2002). It should further aim to facilitate closer regional cooperation with other Southern African states when mitigation and prevention are taking place. By allocating different responsibilities to different spheres of government during the mitigation and prevention processes, the framework will also give effect to cooperative governance (as per Chapter 3 of the Constitution of South Africa). Mitigation measures are key elements in sustainable development and DRR. They include spatial

planning, design of infrastructure, legal framework and regulations (URT, 2004a), which accommodate all government departments, including the education department.

3.5 THE IMPORTANCE AND WAYS OF MAINSTREAMING DRR INTO SECTORAL PLANNING

Since the 1990s, the term “*mainstreaming*” has been used by social scientists and policymakers to highlight critical cross-cutting, but neglected issues, to bring them to the centre stage (Chakrabarti, 2017). Ronilda (2010) states that the lack of satisfactory progress in mainstreaming DRR in development is attributed to various factors. Firstly, the task itself is enormously complex and difficult because it is not limited to one sector but covers multiple sectors and agencies. Secondly, the immediate imperatives of economic growth for the creation of employment opportunities and a better standard of living for all people to receive higher priority than addressing the historical or current risks that are accepted as inevitable. Third, addressing risk factors in development does not give the visibility or political mileage that many big-ticket projects may have, and therefore loses out in importance in the competitive political economy (UN, 2010; Chakrabarti, 2017). While all these factors have made the task difficult, the most important, often underestimated factor, is the inadequate comprehension of mainstreaming and the absence of clear, cogent and practical guidelines, tools and techniques for mainstreaming DRR within development (UN, 2010; Chakrabarti, 2017). According to Chakrabarti (2017), there are isolated examples of mainstreaming in some countries, but there are no serious efforts at mainstreaming in an organised and systematic manner across all sectors of development. He argues that systemic mainstreaming cannot be left to the initiatives of sectoral agencies but must be at the centre of the development process (Chakrabarti, 2017).

Hence, the objective of mainstreaming is to bring to the forefront an important issue that is not the concern or business of a particular sector but is the common concern of all sectors, or what is often characterised as “*everybody’s business*” (UN, 2010). The core philosophy of mainstreaming is that, by bringing the critical cross-cutting issue to the forefront, it becomes the core principle of governance that permeates all sectors and all levels into mainstreaming. It goes beyond the public sector to include the private sector, the corporate world, academia, media, civil society and communities. Reducing the risk of disasters across all these sectors is no longer a task of an agency responsible for DRM

but of all sectors engaged in the development of a society (Ronilda, 2010). The International Framework of Action adopted for the International Decade for Natural Disaster Reduction (1990–1999) called upon all governments to “*formulate national disaster-mitigation programmes, as well as economic, land use and insurance policies for disaster prevention and to integrate them fully into their national development programmes*”. In 1994, the Yokohama Strategy and Action Plan for a Safer World reiterated that “disaster prevention and preparedness should be considered integral aspects of development policy and planning” (UN, 2015). The Hyogo Framework for Action 2005–2015 was more forthright in stating that “effective integration of disaster risk reductions into sustainable development policies, planning and programmes at all levels” was a strategic goal, and addressing the underlying risk factors across all sectors of development was one of its five priorities for action (UNISDR, 2005).

Mainstreaming DRR within development remains the most difficult, slow and challenging among all the DRR-related tasks, particularly in developing countries (UN, 2011; 2013). One of the reasons for this lack of progress is that DRM focuses overwhelmingly on disaster response and recovery, with little effort made to mainstream DRR across the different sectors of development. Hochrainer-Stigler, *et al.*, (2011) highlights that there is little appreciation for the costs and benefits of risk reduction among agencies responsible for planning and financing of development, which leads to inadequate public investment for disaster reduction. Even the benefits of the limited public investment to date have not been protected because the underlying risks factors were not addressed, while the process of development created new risks, compounding the accumulated risk factors (UN, 2015).

The Sendai Framework underscores the importance of mainstreaming DRR within sustainable development and further enlarges the scope of mainstreaming to include the respective models and practices of professional associations, financial institutions, and charitable foundations (Chakrabarti, 2017). UN (2010) emphasises that the 2030 Agenda for Sustainable Development further pushes mainstreaming across the sectors of development by including elements of DRR and resilience adopted at the conference in Sendai. These include some of the most important and critical areas of development, such as poverty eradication, food security, infrastructure, human settlements, and climate change (UN, 2015). This emphasis implies that industrialised countries should provide

the necessary support for reducing the risk of climate-related disasters, which account for more than 80 per cent of disasters in the world. Events that may involve irreversible and permanent loss and damage; should be accepted and be prepared (Hochrainer-Stigler, *et al.*, 2011). Hence, countries have voiced the need for guidelines for policymakers and development practitioners on how to mainstream DRR across the different sectors of development. No general set of guidelines for mainstreaming can apply equally to all countries, regions and sectors. It must vary according to the levels of hazards, risks and vulnerabilities of each country and region; the context and dynamics of risks; the levels of economic and social development of countries, their capacities and resources; the types of legal, institutional and regulatory systems; and the sectors of development that would need to be addressed (UN, 2010).

Hochrainer-Stigler *et al.* (2011) state that the general principles of mainstreaming, strategic approaches in various sectors of development and processes for formulating national and sectoral guidelines on mainstreaming can be suggested. In this regard, figure 3.3 below shows ways in which mainstreaming of disaster risk reduction in development can be attained.

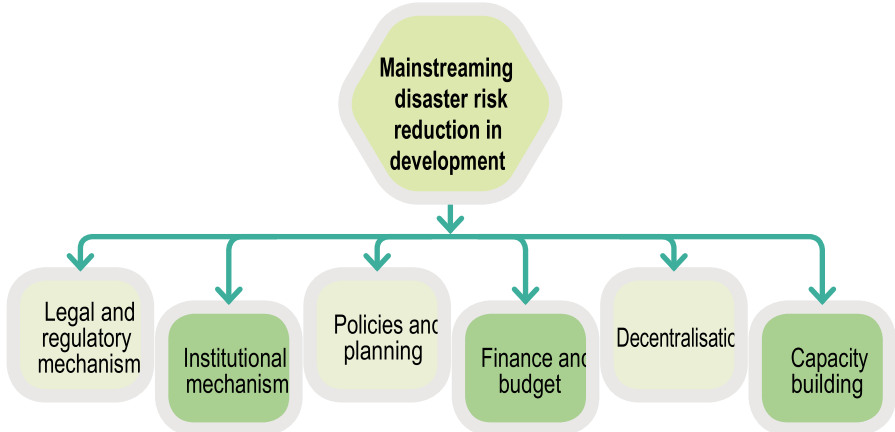


Figure 3-1: Ways of mainstreaming disaster risk reduction (Aloysius Rego, 2010)

3.5.1. Legal and regulatory mechanisms

A sound legal and regulatory system is important for the effective mainstreaming of DRR within development. This does not mean that separate laws are required for mainstreaming, it only implies that risk reduction must be mandated by the legal and

regulatory systems of a country. These systems include disaster management laws along with legislation in all relevant sectors, as well as rules, regulations and codes developed in accordance with the laws (Rego, 2010). When mainstreaming policies are put in place to be merged to formulate a new policy sound legal advice is required. Therefore, governments are advised to consider the following two important issues when developing a legal regulatory system (UN, 2017:23):

- ensure that legal mandates do not remain confined to statute books but are implemented; and
- legal mandates are followed up by appropriate regulatory regimes in all relevant sectors.

3.5.2. Institutional mechanisms

Three models regarding mainstreaming have emerged, each with many variations within the institutional mechanisms (UN, 2017:24). In the first model, a separate specialised national agency or authority is created by disaster management law – usually with the head of government as the chair – for steering the entire system and process of DRM in the country. In the second model, inter-ministerial coordination mechanisms are created in the office of the president for guiding the process of disaster management, although the basic responsibilities of DRM continue to remain with the respective departments of the government. In the third model, disaster management is the exclusive responsibility of a single agency or department of the government that discharges its responsibilities in coordination with other agencies. Whatever the model, the institutional mechanisms for mainstreaming DRR within development cannot remain limited to a certain agency responsible for disaster management. It must encompass all of government, covering all sectors of development in the public and private sectors. Some of the measures for strengthening institutional mechanisms for mainstreaming may include the following:

- activating the specialised or coordinating agencies for DRM;
- constituting multi-stakeholder national and local platforms for DRR;
- setting up nodal points for DRR within every relevant development sector (UN 2017:24).

3.5.3. Policies and planning

Most countries have developed national policies and strategic action plans on DRM. Importantly, some of the plans systematically address the issues of mainstreaming DRR into the various sectors of development. This has resulted in considerable gaps between professed policies and plans and actual practice as DRR is not mainstreamed in the sectoral policies. There is no guidance on the coherence or integration of long-term national strategy plans, short-term action plans, or multi-sectoral development plans with disaster management plans. As a result, most of the disaster management plans remain disconnected from sectoral development plans and are not implementable because they are either not supported by sufficient resources or lack the backing of an accountability framework. Most of the developing countries are constrained by lack of resources and capacities, but some of them have innovated on low-cost community-based initiatives for risk reduction (Rego, 2010). For national and local policies and planning to become effective instruments for mainstreaming DRR within development, governments should consider adopting the following course of action (UN, 2017:26):

- integrate the main concerns and issues of DRM into national development plans;
- formulate the strategic action plan on disaster management in coherence with the national development plan through a process of consultation with all relevant development sectors; and
- ensure that the plans are practical and can be implemented within available financial and technical resources.

3.5.4. Finance and budget

Governments around the world, particularly in the developing world, have cited a lack of resources as the main barrier for implementing measures for DRR. This is quite evident in the national and regional progress reports on the implementation of the Hyogo Framework for Action. On average, only around two per cent of the total international development assistance is allocated to DRM, and 75 per cent of that budget is allocated to only four countries (GFDRR, 2012a). Countries are creating their special funds for DRM, which in some countries are mandated by laws on disaster management, but most of these funds are dedicated for disaster response and humanitarian relief. Governments do spend budgetary resources on various structural and non-structural measures for

DRM in different development sectors, and these may be concerning the assessed needs for risk reduction. Taken together, such investments may far overshadow the international aid for DRR (Kellet and Caravani, 2012). Mainstreaming DRR within public finance and budgeting can be done through two strategic interventions:

- stepping up direct or dedicated public and private investments for DRR; or
- recalibrating the existing development schemes in different sectors for optimising the benefits of such investments for reducing the risks of disasters.

3.5.5. Decentralisation

An approach to DRM makes it imperative that the business of DRR does not remain centralised in the national government but becomes the joint responsibility of government at all levels, from national to local, with engagement and participation of all stakeholders and communities (Rego, 2010). The UN (2017:29) states that decentralisation promotes good governance because it improves the delivery of services (efficiency), involves citizens (participation) and makes the system open and transparent (accountability). It promotes community-based risk assessment, risk reduction and preparedness, and enables the effective utilisation of local knowledge and resources. It improves the process of two-way risk communication from the local to the national and vice versa. It enables the participation of many stakeholders including civil society, community-based organisations, local leaders and other opinion-makers. In short, it empowers local communities. The mid-term review of the Hyogo Framework found that only 20 countries had dedicated budget allocations to local governments, even though 65 per cent of the countries had made local governments legally responsible for local-level DRM (UNISDR, 2011). Countries are advised to decentralise, delegate and transfer functions, authorities and resources to the authorities in towns and villages so that they can manage and reduce the local risks of disasters.

3.5.6. Capacity building

Capacity building is one of the most crucial elements for mainstreaming DRR within development. Capacity development cannot remain limited to the national agency for disaster management; it must infiltrate all sectors at all levels and for all types of hazards,

natural as well as human-made, and every aspect of DRM. The illustration of the capacity-building diagram in figure 3.3 below emphasises the crucial elements (Rego, 2010).

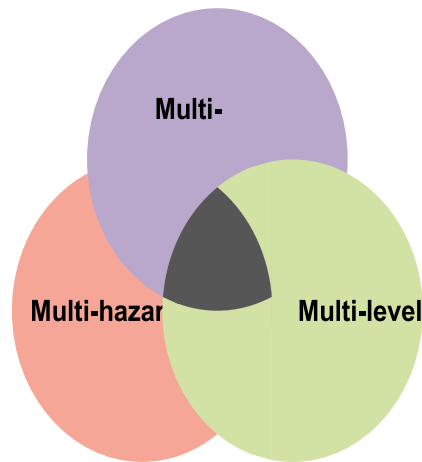


Figure 3-2: Capacity-building framework for disaster risk management (UN, 2017:30)

The multi-hazard, multi-sectoral and multi-level capacity development is a massive task that has to be undertaken in an organised and systematic manner. The existing capacities must be assessed, the gaps in capacities must be identified, and strategies must be worked out for resolving the gaps in a phased manner (UN, 2017). The UN (2017) maintains that some policymaking, legislative, ministerial and bureaucratic capacities can be upgraded through sensitisation programmes. Some capacities at mid-level can be refreshed through knowledge and information-based programmes, while the abilities of cutting-edge functionaries can be developed through skills development. Furthermore, the capacities of citizens and communities can be developed through awareness programmes. All this work, however, requires a large number of trainers and a programme for training the trainers. Considering the huge training gaps and training needs, there is strong justification for:

- stepping up the training and capacity-development initiatives of the existing educational, professional, research and disaster management training institutes in the region; and

- creation of new specialised institutions for training and capacity development on DRM wherever necessary.

Mainstreaming DRR in sectoral planning paves the way for the incorporation of various government structures in DRR, thus equipping and empowering communities with knowledge about DRR.

3.6 MAINSTREAMING OF DISASTER RISK REDUCTION INTO THE POLICIES OF THE EDUCATION SECTOR

According to Abbasov (2018) mainstreaming is the practice of supporting communities through planning and development. This means that regular development process has to consider disaster risk, reducing risk levels in a particular area. Risk informed development interventions (i.e. building new schools, building roads, and communication lines, amongst others.) support risk reduction measures. In addition, disaster risks can be reduced by implementing risk reduction activities in school education, health, food industry. Creation of early warning systems and other preparedness measures can also reduce risks (Benson et al. 2004). According to Nkonka (2019:62), the early warning systems consists of

- Mitigation plan
- An early warning monitoring plan
- Contingency plan

Krishnan (2017: 55) defines disaster risk management as actions that are aimed at managing and eventually reducing the effects of hazardous events on people and assets and explains that disaster management should be an integral part of development planning. The need to link DRR with governance and making DRR part of planning actions will provide that link. The link is also the process of integrating DRR into 'institutional planning, development, functional and operational process' is the essence of mainstreaming. According to Shaw *et al.* (2004), learners can be innovative agents of change and the link to change, only if they are involved in education policies that drive progress in schools. They can maximise the adaptive capacity needed to address disaster risk, "*when equipped with relevant knowledge and skills*", learners can make informed decisions and communicate relevant information. However, many projects do not

succeed because learners are treated as bystanders rather than active participants (Roshani, 1997). Therefore, for the participation of these learners to be effective, communication (giving out information) must become embedded in institutions and processes that influence children's everyday lives (O'Donoghue, Kirshner & McLaughlin, 2003).

According to Planet International (PI), 2015) it is helpful that NGOs and other partners are also well-informed of the developments of comprehensive school safety and other related DRR issues in schools undertaken by the Department of Education, as this allows them to align what they are doing in assisting the schools. This contributes to more effective efforts towards attaining common goals of mainstreaming DRR into the education department. Shaw *et al.* (2004) also emphasise that it is widely acknowledged that schools play an important role in raising awareness amongst students, teachers and parents. The more a child is aware of hazards and realistic risks, the more potential there is for adults to be educated by the child. King (2000) observes that raising awareness of possible hazards and increasing knowledge of and active participation in appropriate preparations, should hopefully move people to respond more effectively to warnings and behave safely when a disaster does occur.

According to Hassanian (2006), children and youth are part of the population most severely affected by disasters, as they can easily panic and become difficult to manage during emergencies or crises, especially when a school or a house catches fire. Learners and policymakers, therefore, rely on disaster management for their preparedness and resilience and mitigation strategies to ensure implementation of disaster risk reduction before, during and after the occurrence of a hazardous incident. The International Strategy for Disaster Reduction (ISDR, 2007) has indicated that disaster management education is vital if school learners are to be prepared and develop resilience in the face of disasters. According to the UNESCO Director-General, Koichiro Matsuura (UNESCO, 2007), anticipating, educating and informing are important ways to reduce the risk as well as the deadly effect of disasters. In recognition of the role that education should play in disaster risk reduction, the International Strategy for Disaster Reduction dedicated 2006 as a year for encouraging both the integration of disaster risk education in school curricula in countries vulnerable to natural hazards and the safe construction and renovation of school buildings to withstand natural hazards.

Nkonka (2019) highlighted that many children are suffering due to the hazards they face daily, which is negatively affecting school enrolment. She indicated that low attendance rates are experienced during the rainy season and gang violence (Dr Kenneth Kaunda District) as most pupils are walking to school and fail to cross the flooded roads, and gang fights. This results in school dropouts (Walsh, 2017). As a result, current intervention on floods and gang violence is needed when,

- Parents accompany their children and assist them in crossing the roads to school and flooded roads
- Soon after receiving heavy rains or gang fights learners are not allowed to go home by the teachers, they wait for about an hour and usually, parents come to school to collect their children.

According to Karishnan (2017: 76), the community becomes engaged to identify culturally and socially acceptable DRR interventions which will be effective, long-lasting and sustainable. DRR measures that might be developed by the community will be centred on the provision of improved school attendance and the reduction of hazardous incidents. DRR in education equips people with knowledge and skills so that hazards cause the least possible loss of human life, inflict as little damage and destruction as possible, and only cause minimum disruption to economic, social, and cultural activities (Legotlo, 2014:90). What people know is more important than what they have when it comes to saving lives and reducing loss. This knowledge strengthens individuals and community resilience to hazards while enhancing the education system and preparedness and response to disasters. It thus ensures that schooling continues after hazard strikes, and limits damages to the education sector (UNICEF, 2010). The UN (2015:12) indicated that, as an integral part of education for sustainable development, preparing the education system includes conducting a multi-hazard risk assessment, drafting plans and policies to address threats, and implementing those plans sustainably. Those plans include awareness campaigns, integrating DRR knowledge into the education department and the community.

Le Roux (2013) states that awareness campaigns at schools should follow a communication strategy of mutual understanding and agreements made by the education department and the DRMC. This communiqué should include specific communication

actions and activities that enable all stakeholders (risk practitioners and development organisations as well as community members) to participate in discussions, share opinions and information, and build partnerships (Le Roux, 2013). If there is a misunderstanding during the mainstreaming process, DRR will not be successfully incorporated into the education sector and the pertinent learning and teaching in schools and the community will be minimal (O'Donoghue, Kirshner & McLaughlin, 2003). According to a report by UNESCO (2007), education for disaster preparedness is a never-ending process that requires constant collaboration efforts by all parties concerned. Hartnady (2010) argues that sustainable development agencies must engage with education authorities to promote hazard awareness and DRR community preparedness by influencing the development of new curricula, textbooks and teacher training in both primary and secondary schools. ENDED HERE 18/02/21

Mainstreaming DRR in education policy is critical for its implication and sustainability and should be done through communications (using teaching the community about DRR). DRR policies and plans must be addressed in teaching and learning, school safety, and disaster management for the provision of a safe school environment (Ginige, Amaratunga & Haigh, 2009). Mainstreaming of DRR in education should unfold as follows (Rolleri, 2013):

- Introducing DRM modules into the school curriculum;
- Promoting hazard resilient construction of new schools;
- Introducing features into schools for their use as emergency shelters;
- Conduct awareness programmes for various stakeholder groups to provide hazard-related information;
- Assist education departmental officials to develop guidelines to reduce disaster impacts and disseminate such information (posters, calendars, billboards, handbills etc.);
- Organise disaster safety day events to commemorate past disasters;
- Organise annual school competitions to raise awareness;
- Create, maintain and regularly update databases of people and disaster losses, and inventory elements at risk.

Planning and implementing disaster preparedness measures, maintaining the safekeeping of vital school records and learning materials, tracking all school learners and personnel during disasters, conducting damage assessments, facilitating the immediate resumption of classes, and monitoring recovery plans and rehabilitation interventions implemented in the school are among other roles and responsibilities considered when mainstreaming disaster risk reduction (Planet International, 2015). Therefore, the following objectives for mainstreaming DRR into education must be taken into consideration (Iglesias, 2010):

- Empower the education department to undertake effective measures to reduce disaster risks within the existing legal framework by formulating and implementing appropriate strategies, action plans and programmes to reduce disaster risks.
- Enhance and strengthen the mandate or scope of the education department for reducing disaster risks by modifying existing laws and other legal provisions, building partnerships, strengthening institutional and human resource capacities, and better communication strategies with learners, community members, non-government organisations, civil society.

Education is an important sector in which DRR can be mainstreamed in a significant way (Rolleri, 2013). Taylor (2014:77) states that education is a key social sector in which the mainstreaming of elements of DRR into programmes, activities and projects of the Department of Education can be crucial towards reducing the loss of life and assets during a disaster. However, unsafe school buildings constructed in areas prone to various hazards of nature have suffered extensive damages during earthquakes, landslides, cyclonic storms, etc., resulting in the death of many schoolchildren and teachers, which could have been prevented had the structures been built according to disaster-resistant building designs (Babugura, 2008). Schools are important institutions that produce new generations of leaders and workers through education, awareness, knowledge and skills. Education and awareness about disasters at school level can help to create a culture of disaster prevention and preparedness in a country and create a professional pool of experts (Martin 2010).

At the school level, there will always be in and outward movement of people who are trained to deal with disaster risk reduction, as students graduate and school teachers change jobs and move away. These graduates can and will serve as agents of communication in schools (UNICEF, 2012). However, this has always been a challenge and is impacting the sustainability of school activities, because more workshops and training should be regularly conducted for those who are still in the school environment. According to (UNICEF, 2012) it is necessary to ensure that schoolchildren or teachers who were trained also pass on their knowledge and skills to the next generation because large development processes especially those in developing countries do not take disaster risk into account Krishnan (2017:26), hence some challenges emerge as a result of the ins and outward movement.

Mainstreaming challenges depends entirely on how national authorities delegate responsibility for development, distribution of resources, planning and management of those resources and the delivery of public services and utilities, that determines the success of mainstreaming process (Krishnan,2017:26). Hence, measuring decentralisation and local decision-making power is often a good way to understand if mainstreaming will be a success or not. The second issue that prevents effective mainstreaming, is the lack of a coherent framework to operationalise DRR mainstreaming. One of the issues highlighted by Nkonka (2019:65) is when the overlapping of concepts, ideas and definitions within the field is unclear. Complications in the process of creating a framework are sometimes caused by interchangeable vulnerability and risks which are also seen as equivalent. This leads to complications in the process of creating a framework that is applicable in many arenas, and in this study the policy framework of the department of education (Kancharla, 2019).

The third challenge is lack of disaster prevention education in the formal curricula; vulnerability of structures, non-structural, infrastructure and people; lack of unified administrators to manage and assess the effectiveness of disaster prevention education, significant gaps between the education outlined in the syllabi and in real; lack of appropriate communication between school, family and community, and scarcity of educational resources are some of the issues that challenge the mainstreaming of DRR in the education sector (Nkonka, 2019:65). Lastly, the lack of professional training for teachers, whereas suitable teachers' training in disaster risk is a critical component in

integrating disaster risk in education. Furthermore, two significant barriers in the education of DRR are lack of coordination, cooperation, and collaboration between involved organizations and inconsistency in education (Nkonka, 2019:65). However, according to Abbasov and Rovshan (2018), a successful mainstreaming framework should have the following characteristics: generated political will, flexibility, and the ability to encourage ownership. Secondly, the framework must be flexible, so it can be applied to different local hazards successfully. Finally, a successful framework will generate a sense of ownership by allowing for the participatory process and methods to measure the effects of these processes.

3.7 CONCLUSION

This chapter described and explored different legislative frameworks as important tools that can be used to determine risk and minimise and manage it within the communities, especially the school environment. These tools can be used to determine hazardous disaster incidents and vulnerability of the communities. The focus was recognised globally which affected many countries in reducing disaster risk, vulnerability and resilience. Significant efforts were made to reduce disaster incidents. Hence the disastrous incidents have decreased globally. However, in some countries, current theoretical frameworks are not followed as it is supposed to be and it is not implemented the way it was proposed, due to various circumstances like funds and commitment by governments. The importance of a legislative framework is that it should act as a guiding tool that assists all role-players involved in minimising the risk in schools. Therefore, it is important to mainstream DRR within the education department through teaching and learning of all stakeholders in the department and the community. The teaching and learning occur in many ways: through effective communication, DRR in the school curriculum, and awareness campaigns in communities. Having community-based educational approaches along with more effective and efficient teaching and learning policies, a dynamic and ongoing educational planning, availability of educational resources and cooperation and coordination of various involved organizations in disaster management will also increase a positive mainstreaming process. Executive power and political will, getting help from legislators to provide some laws and law enforcement actions and sufficient founding support are other important strategies for education of DRR (Aghaei et al. 2018).

CHAPTER 4: FINDINGS AND DATA ANALYSIS

4.1 INTRODUCTION

In this study, Chapter 2 focused on policy formulation, design implementation and analysis within the public sector. Chapter 3 outlined the mainstreaming of disaster risk reduction. This chapter presents the empirical findings of the study from data collected by analysing policy documents in the Department of education and empirical findings from officials at the Provincial Department of Education, officials and schools in the Dr Kenneth Kaunda District as well as key informants in disaster management at provincial, district and local government levels. The chapter addresses the third objective of the study, which was “to evaluate if DRR is mainstreamed in the policies of the Department of Education in South Africa”. The chapter is structured as follows, following this introduction, the chapter presents of the policy documents content analysis, after which the respondents’ profiles are summarised. The greater part of this chapter presents the findings of the empirical study, which are thematically presented. A short discussion of the findings is presented after the analysis, after which conclusions are drawn.

4.2 FINDINGS OF POLICY DOCUMENTS CONTENT ANALYSIS

This section presents the findings of the content analysis of the policy documents. These following documents were reviewed (see the summary of the review in table 4.1 below):

- National Education Policy Act, 1996 (Act No. 27 of 1996) National Policy for Equitable Provision of an Enabling School Physical Teaching and Learning Environment.
- South African Schools Act 84 Of 1996
- White Paper on Education and Training, Notice 196 of 1995
- The national minimum uniform norms and standards for school infrastructure, of 2009
- The National School Safety Framework of 2015
- Report on the Implementation of Education White Paper 6 on Inclusive Education: An Overview for the Period: 2013 - 2015 of 2015
- Regulations for Safety Measures at Public Schools of 2001. Published under Government Notice 1040 in Government Gazette 22754 of 12 October 2001 and Amended by GN R1128 in Government Gazette 29376 of 10 November 2006

- Regulations on the National Curriculum Statement Grades R-12, published as Government Notice 1114 in Government Gazette No. 36041 of 28 December 2012 as Amended as Government Notice No.1404 in Government Gazette, No. 41321 dated 15 December 2017.
- Revised National Curriculum Statement Grades R-9 (Schools)
- Action Plan to 2019: Towards the Realisation of Schooling 2030, of 2015

Table 4.1: Number of times a code, keywords are mentioned in the reviewed documents

Year of publication	Document name	Disaster risk reduction	Disaster risk management	Disaster management	Disaster resilience	Disaster Risk	Disasters	Hazards	Safety
1995	White Paper on Education and Training, Notice 196 of 1995	0	0	0	0	0	0	0	0
1996	National Education Policy Act, 1996 (Act No. 27 of 1996) National Policy for Equitable Provision of an Enabling School Physical Teaching and Learning Environment.	0	0	0	0	0	0	0	0
2006	South African Schools Act 84 Of 1996	0	0	0	0	0	0	0	0
2009	The national minimum uniform norms and standards for school infrastructure	0	0	0	0	0	0	0	9
2006	Regulations for Safety Measures at Public Schools of 2001. published under Government Notice 1040 in Government Gazette 22754 of 12 October 2001 and amended by GN R1128 in Government Gazette 29376 of 10 November 2006	0	0	0	0	0	0	0	7
2015	The National School Safety Framework of 2015	0	1	0	0	0	0	1	472
2015	Report on the Implementation of Education White Paper 6 on Inclusive Education: An Overview for the Period: 2013 - 2015 of 2015	0	0	0	0	0	0	0	6
2015	Action Plan to 2019: Towards the Realisation of Schooling 2030, 2015	0	0	0	0	0	0	0	0
2017	Regulations on the National Curriculum Statement Grades R-12, published as Government Notice 1114 in Government Gazette No. 36041 of 28 December 2012 as amended as Government Notice No.1404 in Government Gazette, No. 41321 dated 15 December 2017.	0	0	0	0	0	0	0	1
Undated	Revised National Curriculum Statement Grades R-9 (Schools)	0	0	0	0	0	0	0	0

The findings of the policy documents analysis as presented in Table 4.1 above reveal that there are no results for the keywords that were searched in four (5) policy documents. These documents are, The White Paper on Education and Training, Notice 196 of 1995, the South African Schools Act 84 Of 1996, the National Education Policy Act of 1996 (Act No. 27 of 1996), The Action Plan to 2019: Towards the realisation of Schooling 2030 of 2015 and The revised National Curriculum Statement Grades R – 9 (Schools). Moreover, there are no results for the keywords disaster risk reduction, disaster management, disaster risk, disaster resilience, and disasters in all the policy documents analysed. However, five other policy documents mention the keyword between one and 472 times per document. The keyword safety appeared 492 times, with the code appearing 472 times in one document, the National School Safety Framework (NSSF) of 2015. The other two codes/ keywords, disaster risk management and hazards are mentioned once each in the National School Safety Framework of 2015. Therefore, the analysis of the policy documents analysis will focus on the documents in which the keywords appear.

4.2.1. National School Safety Framework of 2015

As reflected in the preceding paragraph, the National School Safety Framework contains three of the eight keywords used to analyse the nine policy documents.

4.2.1.1. Safety

Understandably, the word safety appears 472 times in the document. As stated in the document, the National School Safety Framework provides an important instrument through which minimum standards for safety can be established, implemented and monitored and for which schools, districts and provinces can be accountable. The document states that the overall aim of the framework is "to create a safe, violence-free and threat-free, supportive learning environment for learners, educators, principals, school governing bodies and administration" (p3). Whereas the Department of Basic Education is committed to preventing, managing, and responding to safety incidents and create a safe and supportive learning environment in all schools, the downside of this policy document is that it focuses on violence occurring within schools. In this regards the Framework states clearly that, "the purpose of the NSSF is to focus only on the levels of violence that have been plaguing schools countrywide and to provides a guide on managing the schools to be safer space, making sure that the appropriate structures,

policies and enabling environment is in place" (p3). Interestingly, disaster management authorities are not identified in the framework as stakeholders or partners during emergencies, fires and on health and safety matters unless if they are implicated in the fire department identified as a stakeholder. It will be very important that issues of DRR be considered and incorporated into the successor framework to the NSSF. Disaster management institutions can assist this process by creating awareness and engaging the education sector to consider DRR in their policies. In this regard, the safety framework for education must address all safety issues and all-hazard and not focus on one specific issue. The focus on one specific issue entrenches the "silo" mentality.

4.2.1.2. Disaster risk management

The keyword disaster risk management appears only once in the introduction of the NSSF. In the context of the NSSF, disaster risk management is mentioned as part of many other aspects critical for schools safety that are not covered by the framework including health, infrastructure and curriculum design. The acknowledgement of disaster risk management as a critical aspect of school safety is an important step of incorporating the concept and what it entails into the policies of the Department of Education. This study contends that the concept can be considered and explored further when the framework is reviewed.

4.2.1.3. Hazards

Similar to disaster risk management, the keyword hazards appears only once in the NSSF. However, the context in which the word is used is not to highlight the hazards that make schools unsafe. The word is mentioned on page 12, in the section on other national policies that informs the NSSF. Specifically, the word is mentioned in The Children's Act (No. 38 of 2005) where it is indicated that "the objects of the Act include protection from maltreatment, neglect, abuse or degradation; protection from discrimination, exploitation and any other physical, emotional or moral harm or hazards; and, promotion of the protection, development and wellbeing of children" (p12). Whereas many hazards expose learner, educators and education infrastructure to safety concerns, the framework misses an opportunity to identify these hazards and provide a mechanism to address. This is mainly because the framework focuses on violence and not other hazards as stated in

section 4.2.1.1 above. It is of critical importance that all hazards that expose schools to safety concerns be identified and relevant measures be put in place to address these.

4.2.2. The National Minimum Uniform Norms and Standards for School Infrastructure of 2009

The keyword safety appears nine times in this document and no other keywords are mentioned. This policy document contains the most important safety measures in schools of all the policy documents reviewed. This is so because the basic safety norms articulated in the document are the bare minimum allowable for schools to remain open. The document characterises schools not meeting the basic safety provisions amongst others as those experiencing characteristics like caving-in structures that pose a danger to learners, structures without roofing, temporary structures that do not meet South Africa's health standards, total lack of a water source, lack of ablution blocks that meet South Africa's health standards. Under the planning norms, and specifically the location of a school site, the document forbids locating schools immediately adjacent to cemeteries, business centres, railway stations, taxi ranks, sewage treatment plants, and hostels and next to busy roads unless adequate preventative measures are undertaken to ensure the safety of the learners. These sites are all considered not to be safe for the schooling environment. Most importantly the norms require all school buildings to conform to regulations under the National Building Regulation. Moreover, the norms make provision for schools to have fire extinguishers that conforms to national and international regulations on the provision, maintenance and replacement of fire extinguishers. The aim is for all schools to reach an optimum level of provision for the physical teaching and learning environment by 2030.

4.2.3. Regulations for Safety Measures at Public Schools of 2001. published under Government Notice 1040 in Government Gazette 22754 of 12 October 2001 and amended by GN R1128 in Government Gazette 29376 of 10 November 2006

In this document, only the keyword safety appears seven times. No other keywords are mentioned in this document. Of the five, two areas where the word safety is mentioned is in the title of the regulation. The other area where the word is mentioned is in the Amendments of Regulation 4 relating to school activities and physical activities. In terms of school

activities, the amendment regulation states in section 8A (2) that a public school must take measures to ensure the safety of learners during any school activity, and amongst others, this includes: (a) insuring against accidents, injuries, general medical expenses, hospitalisation and those that may occur, depending on the availability of funds. Moreover, section 8E (3) states that the safety measures regarding water contemplated in sub-regulation (2) apply to any swimming or water sports activities at:

(a) a swimming pool;

(b) a river;

(c) a dam; or

(d) the ocean.

Section 8E (5) states that if a public school has a swimming pool, the principal must ensure that notices regarding safety measures are displayed around the swimming pool. Whereas all these amendments and the measures put in place are important for the safety of learners, the Amendment Regulations misses an opportunity to consider disaster risk and therefore it is recommendable that it is considered when the safety measures contemplated in the Act are reviewed and amended.

4.2.4. Report on the Implementation of Education White Paper 6 on Inclusive Education: An Overview for the Period: 2013 - 2015 of 2015

The keyword, safety is mentioned six times in this report and no other keyword is mentioned. The word first appears on page 24 on matters regarding the strengthening of special schools and special schools resources centre. The report states that provinces have been requested to intensify the school safety programmes in special schools and to ensure that there is an adequate supply of non-teaching staff appointed as supervisors in special school hostels (p23). On page 51 the Report deals with Special School Hostel policy and states that learners who are Deaf or intellectually disabled are doubly vulnerable and therefore the Hostel Policy for special schools must be finalised to address all issues on the accessibility of facilities, supervision, and safety. It further states that the implementation of the school safety strategy should target special schools as a critical focus area given the high level of abuse that has been reported. In addition to the

improvement in the delivery of the curriculum, the report emphasises the need to improve safety in hostels.

4.2.5. Regulations on the National Curriculum Statement Grades R-12, published as Government Notice 1114 in Government Gazette No. 36041 of 28 December 2012 as amended as Government Notice No.1404 in Government Gazette, No. 41321 dated 15 December 2017.

The keyword safety appears only once in this document and no other keyword is mentioned. The word safety appears in section 11 of the regulations, which has more to do with the management of school assessment records and school learner profiles. Specifically, section 11 (2) states that the management, maintenance and the safety of the report cards and schedules are the responsibility of the school management and should be managed in terms of paragraphs 25 and 26 of the policy document, National Protocol for Assessment Grades R – 12.

4.3 FINDINGS OF EMPIRICAL STUDY AND ANALYSIS

4.3.1. Biographical information of participants

Respondents who participated in the face-to-face interviews ranged from junior officials to departmental directors. Respondents’ work experience ranged from development specialist, infrastructure coordinator, disaster management coordinators, and education facilitators. Table 4.1 below summarises the profile of participants who engaged in semi-structured interviews.

Table 4-2: Profile of participants in the semi-structured interviews:

PARTICIPANTS INFORMATION		
	Respondents’ Institution	Number of participants
1.	North West Provincial Disaster Management Office	2
2.	Dr Kenneth Kaunda District Disaster Management Centre	1
3.	Matlosana Local Municipality Disaster Management Centre	2

4.	Department of Education: Provincial Office	1
5.	Department of Education: District Office	1
6.	Department of Education: Educators	15
	Total	22

The positions of the respondents in each institution are not revealed in the table to protect their identity, as they participated on the condition that their identity would remain anonymous.

4.3.2. Themes that emerged from the study

This section thematically presents the empirical findings of the study. Data was collected through semi-structured interviews, which offered the benefits of face-to-face interviews. Thematic analysis in this instance comprised of descriptive information provided by the respondents. Braun and Clarke (2006:79) define thematic analysis as a method for identifying, analysing and reporting patterns (themes) within data. Thematic analysis was selected because it requires a truncated level of interpretation (Vaismoradi *et al.*, 2013); it minimally organises and describes datasets in rich detail (Braun & Clarke, 2006). Moreover, thematic analysis also provides a flexible and useful tool to provide a rich and detailed yet complex account of data (Braun & Clarke, 2006). Table 4.2 below summarises the themes and sub-themes that emerged from the study.

Table 4-3: Identified themes and their sub-themes

	Sub-themes	Themes
4.3.2.1 Thematic Area 1	Respondents' perspectives on disasters	
		Respondents conceptualisation of disasters
		Roles and responsibilities of stakeholders during disasters
4.3.2.2. Thematic Area 2	Impacts of disasters in schools	

		Hazardous incidents that lead to disasters associated with the Department of Education
		NSNP (National School Nutrition Project) - School feeding scheme
4.3.2.3. Thematic Area 3	The need/importance to include DRR in education policies	
		Safety and security
		Analysis of incorporation of DRR into education policies
4.3.2.4. Thematic Area 4	DRR incorporated into the policies of the Department of Education	
4.3.2.5. Thematic Area 5	Challenges of including DRR in education policies	
		Lack of resources (human and financial resources)
		Lack of skills and knowledge about DRR policy
4.3.2.6. Thematic Area 6	Management of the mainstreaming process of DRR into the education department	
		Monitoring of DRR funds into DBE
		Assessment of policy implementation into DBE
		Care and support from DRR

In this study, patterns of views and experiences were considered themes because they captured important information about the research question and represented some patterned responses or meaning within the data set (Braun & Clarke, 2006). As such, the various themes that emerged from the discussion of the qualitative study were drawn together to provide a comprehensive picture of the understanding and experiences of the respondents as presented in the sections below.

4.3.2.1. Thematic Area 1: Respondents' Perspectives on disasters

Respondents' views about disasters were influenced by the questions they were asked. In this thematic area, the focus was on the respondent's position, background in terms of qualifications, work experience and their knowledge about disaster incidents. Respondents who participated in the face-to-face interviews ranged from the provincial

chief director, provincial deputy chief director, the district chief director, and officials at Matlosana local municipality (Disaster Management Centre), a provincial education official in the Infrastructure Department, district officials, and educators at schools. The educators are responsible for disaster risk reduction in the schools they work at. Respondents had academic and work experience backgrounds ranging from heading disaster offices around the country, project managing disaster management, and education (educating learners about disaster risk reduction).

Respondents' conceptualisation of disasters

Respondents from the Provincial, District and Municipal Disaster Management Centres displayed a good understanding of disasters. This is because officials at the provincial, district and local municipal Disaster Risk Management Centres are exposed to and work with disasters daily. All these respondents were of the view that a disaster is a catastrophic event that causes fatalities in society and destroys infrastructure. Respondents also outlined various kinds of disasters that are grouped into two broad categories: manmade (intentionally or unintentionally caused by human beings), and natural (disasters that occur naturally). Respondents from the District Disaster Risk Management Centre emphasised that most disasters can be managed and the level of exposure to risks can be reduced if community members are provided with capacity building and training through awareness campaigns.

Respondents from the Provincial and District Disaster Risk Management Centres, including Matlosana Local Municipality, believe that information can be quickly disseminated to the community school learners, as they are quick to learn and are vigilant to incidents that may lead to disasters. The majority of respondents from the provincial and district education sector showed some knowledge of the meaning of a disaster and also commented on possible approaches to managing disasters. Most respondents were of the view that natural disasters occur naturally and at any given time; they can occur in the vicinity of any school and can affect teaching and learning. They felt that disasters could be managed by instituting mitigation measures well in advance of incidents occurring and affecting peoples' lives. Moreover, the respondents from the Department of Education were able to explain what disaster risk reduction is. For them, awareness campaigns in schools and the community were important to prepare communities for potential disasters. One of the respondents said that *"man-made disasters are normally*

caused by people who are unaware or have no knowledge of their actions that might lead to disasters such as living in a shack and sleeping with a candle burning which might fall if not put in the right place and this can result in the shack burning with people in it and their belongings” (Circuit Inspector). The same sentiment was shared by most (eighteen) of the respondents.

What is striking about these findings is that a large majority of respondents from the education sector, most of whom were at the school level, had a good idea of the kinds of disasters affecting their areas. Some respondents mentioned the earthquakes frequently affecting the areas they live in due to mining activities. Some of these respondents were able to reflect on the 2014 tremor that damaged houses and some schools in Stilfontein and Khuma. Other respondents were able to talk about drought as one of the main disasters affecting the western part of the province. These respondents indicated that they had heard or read about the drought in the news.

Roles and responsibilities of stakeholders before and during disasters

Respondents were able to identify the roles and responsibilities of government stakeholders before and after a disaster had occurred. One of the most important roles to be played by disaster management officials, particularly before a disaster strikes, is to spread early warning information through radio, television and newspapers to the communities that might be affected by the anticipated disaster. The following were identified as important steps to take before a disaster strikes:

- send early warnings to the schools and communities;
- Launch awareness campaigns;
- Conduct risk assessments within communities.

During the interviews with those in the field of disaster risk management, most respondents indicated that disaster management centres play a leading role in response and recovery. They indicated that earthquakes, floods, drought, safety and security are hazardous incidents that require response and relief as soon as possible. Participants also indicated that the first step is to implement contingency plans while developing recovery plans. The recovery plan is the shared responsibility of all the relevant departments of government that are involved in a disaster.

Respondents from disaster management at provincial, district and local municipality levels, as well as those from the Department of Education, were able to identify the government's roles and responsibilities during disasters, particularly in the school environment. The following emerged as the main responsibilities of government officials during a disaster:

- Provision of immediate rescue;
- Disseminate hazard and incident evaluations through extension officers to the schools and communities to determine whether learners and other community members are coping with the incident or hazard;
- Provision of food parcels for relief to those affected;
- Assistance to schools and communities who lost everything as a result of disasters by buying clothes and blankets;
- Dissemination of information such as weather reports and rainfall reports;
- Provision of better ways of preventing disasters from occurring; and
- Provision of skills and mitigation measures to learners and the community.

The majority of respondents emphasised that, when disasters such as earthquakes, floods, drought and fire affect communities, government must assist by providing financial aid and fodder relief, especially during droughts. Some respondents noted that government should assist by building schools far from hazardous areas like roads and flooding rivers. Respondents from Disaster Management at provincial, district and local municipality levels concurred that there are several processes that should be followed before any relief can be provided. According to the respondents the PDMC (North West Provincial Disaster Management Centre) consult with the National Disaster Management Centre, the PDMC (North West Provincial Disaster Management Centre) becomes responsible for the declaration of a state of disaster. Once the state of disaster has been declared, the PDMC starts by identifying the relevant stakeholders, does situational and needs assessments, and then coordinates disaster relief from a central point. These assessments are rolled out in affected areas with the help of a leading sector. After the assessment, a database of all those who are affected by the disaster is established and their losses quantified, upon which relief is rolled out to all those affected.

Respondents in the education sector identified as their main responsibility “*making sure that learners are safe during disasters*”. They indicated that this is done by following the health and safety guidelines. Some respondents explained that, during the 2014 tremor, all learners were immediately evacuated from their classes to the assembly point. This was to prevent them from being injured when their buildings collapsed. If there are injuries, their duty is to contact the Department of Education, the police and disaster management centre at the local municipality.

4.3.2.2. Thematic Area 2: Impacts of disasters in schools

From the collected data, the following sub-themes emerged with regard to the impacts that disasters have on the education system.

Hazardous incidents which leads to disasters in schools

Respondents in this study identified droughts, food and water poisoning, location of some schools, earthquakes, and floods as the main hazards prevalent in the district. Drought was the first hazard mentioned that affected schooling. The majority of respondents were of the opinion that learners used contaminated water stored in water tanks, as schools had no running water during droughts. This resulted in many learners getting sick, which affected their attendance record. Respondents argued that, if mitigation measures such as cleaning of water tanks are not implemented, such incidents might even result in loss of lives. Some respondents were of the view that, in some instances, municipalities closed the taps or distribution of water to maintain the water levels available for each municipal area. As a result, communities and schools ended up suffering without water.

Respondents, particularly those in the education sector, indicated that water shortages often meant that toilets were left uncleaned, leading to severely unhygienic conditions. Therefore, schools were encouraged to buy their own water tanks to save water for periods of time when there was no water. However, such water tanks must be thoroughly cleaned on a regular basis to avoid the water from becoming contaminated. According to the South African Schools Act 84 of 1996, lack of water and sanitation in the schools make teaching and learning unbearable, and the learning environment becomes a hazard in itself. As a result of this water shortage, learners are sent home early, they may idle for hours or loiter in the streets and become involved in risky behaviour, which in their communities they are exposed to on daily basis. Literature argues that, every year, more

than 10 million people (mostly in rural areas) worldwide die from diseases related to contaminated water, such as diarrhoea, cholera, dysentery, typhoid, hepatitis, and tapeworms (UN, 2015: 3-8).

Secondly, respondents identified food and water poisoning as common hazards that affect schooling in the district. Respondents were of the view that this could also be traced back to contaminated water from water tanks that were never cleaned, particularly during periods of water shortage. Learners from disadvantaged homes depend on the daily meals provided by their schools; when there is no water at a school, it becomes difficult for the school to prepare meals for their learners. The contaminated water in the unclean tanks is inevitably used when nothing else is available. According to officials at one of the schools in the Dr Kenneth Kaunda district, *“the food handlers used that water to prepare daily meal and learners got sick from consuming the food and this affected schooling”*.

Another hazard is the allocation of land in the communities to build schools on. An example was cited of a new school built in Coligny in the North West province. The school was built in a very muddy area alongside a busy road on one side and a railway line on the other. Some learners had to cross that railway line on their way to school. This put the lives of the learners and their educators at high risk at all times. According to one departmental official, *“there was once a truck travelling from Botswana to Johannesburg which was carrying a dangerous chemical that were leaking from the truck with the driver not aware and by luck the school was not operating at that time and no one was affected by the chemical and the smell from the truck”*. It is imperative for schools to be built in safe areas, away from such obvious hazards as those mentioned in the example above.

Respondents indicated that the Dr Kenneth Kaunda District was one of the districts most affected by earthquakes as a result of mining in the district. The respondents identified Khuma, Stilfontein, and Kanana as areas frequently affected by earthquakes. Again, respondents referred to the earthquake that occurred in 2014. One life was lost when a wall fell on a community member. National treasury provided finances to different departments for reparations to buildings and schools. However, the work of the companies who had been awarded the tender did was of very poor quality. The damage done by the tremor seemed to have been merely superficially patched, with cracks reappearing very soon after it had been “fixed”. The PDMC assigned its members to evaluate the damage at a Stilfontein school, but the labour had already been paid for.

To highlight the problem of fires in schools, the respondents gave examples of two fires at two schools: one in a small town called Leeudoringstad in the Maquassi Hills municipality, and the other in the Potchefstroom area in the Dr Kenneth Kaunda district. In Potchefstroom, no lives were lost. However, the Leeudoringstad school fire claimed one life. According to investigations, no mitigation measures had been instituted, and the national disaster management policy and fire regulations had not been properly complied with.

Respondents indicated the Ngaka Modiri District was the district in the province most affected by floods during the rainy season. The majority of learners are unable to attend schools when there are floods. The Dr Kenneth Kaunda District is also affected by floods, but to a lesser extent. Learners and teachers, particularly from rural areas and farms, are unable to attend schools because the roads – which are in poor state anyway – and small bridges become flooded. One of the respondents explained that *“some bridges in the townships are un-roadworthy for use by both motorists and learners to and from the schools. These bridges are flooded with water during rainy season and this makes it difficult and dangerous for the learners and educators to cross when going to school, being by foot or by use of transportation. Therefore, schooling becomes interrupted and a lot of school time is used in trying to help the learners to come to school”*. Such findings concur with the literature as cited in section 1.2 of this study.

Respondents also indicated that schools in small town areas such as Leeudoringstad, Makwassie, and Wolmaransstad were destroyed by storms that occur during the rainy season. Due to the destruction of buildings and roofs by storms, school furniture is destroyed and teaching and learning ends up taking place outside the classrooms after storms.

The use of gas stoves for the National School Nutrition Project (NSNP) (- Schools feeding scheme)

In South Africa, the school feeding scheme was introduced to provide learners from poor households with meals. As a result, a number of schools prepare meals every day and each school appoints those responsible for preparing the meals from Monday to Friday. The majority of respondents were of the view that more and more schools used gas stoves instead of electric stoves to prepare food. Respondents argued that this was

because gas is cheaper than electricity, so the switch is made to reduce costs. Respondents acknowledged that not all individuals are able to use gas stoves, which places the lives of the learners and educators at risk.

Respondents argued that gas stoves pose a serious fire threat, especially when the operators are not familiar with how they work. Unfortunately, only the NSNP committee members and the school management are trained in the use of gas stoves, and they are responsible for teaching those they appoint to cook. In light of this, respondents maintained that food handlers and cooks, as well as anyone else who may have access to the stoves, be trained in terms of gas safety; not only NSNP committee members and the school management. This would empower them to avoid or handle hazards and incidents when they occur. Moreover, respondents argued that there is a need for each school to have fire extinguishers, with responsible teachers properly trained on how to use them.

4.3.2.3. Thematic Area 3: The need/importance to include DRR in education policies

It is imperative for the Disaster Management Centre to work with the Department of Education. Both departments ought to work together to educate learners and the community about the hazardous incidents that arise around them. The question is how they have been working together. It is important to identify the mechanisms used to eliminate, guard against, and reduce disastrous incidents. The findings in this theme are presented below.

Community empowerment for disaster preparedness

All respondents shared the sentiment that DRR should be included in the policies of the Department of Education in order to educate not only the learners, but the community at large. Respondents held that this would substantially reduce man-made hazards and incidents that will lead to disasters in communities. They argued that the reduction of disasters risk through preparedness will protect and save the lives of those most prone to disasters. Respondents in the disaster management field were of the view that mainstreaming DRR into the education policies and particularly into the curriculum would make the learners aware of disastrous incidents that they face on a daily basis and how to deal with them. These respondents argued that including DRR in the education policy doesn't only make the learners and community educated and aware of disasters but

makes them prepared as well. One respondent remarked that *“It will prepare them at all times for any kind of disasters that they can come across”*.

Respondents from the education sector and a few in disaster management are of the view that including DRR in the education policies and the curriculum will reduce the workload of those in disaster management, thus reducing their financial burden. They say that this is because disaster management officials must hold community awareness campaigns to educate and prepare community disasters. They argued that this has significant financial implications, as they must buy of food and beverages for the people attending the workshops and those officials who will be officiating the workshops. In this regard, it is assumed that learners will be able to share preparedness information with family members and, ultimately, the community. The following statement captures the sentiment shared by most respondents:

“Mainstreaming DRR into the education policies is of importance, not only for the learners but also for the community. In most cases, learners teach their family members about what they have learned at school and implement that in their home. This teaching and learning helps with the education and development of most communities” (respondent from the Department of Risk Reduction).

Safety and security within schools

In recent times there has been a number of incidents that at schools involving learners. The inclusion of DRR in education policies and the implementation thereof might reduce such incidents. Respondents identified incidents such as stabbing, fighting, substance abuse, gangsterism and bullying as the main incidents that need attention. Respondents argued that gangs from the communities bring their fights into the school premises. As a result, they disrupt the day-to-day running of the school. As a result, some learners end up in hospitals after they have been stabbed at school. Respondents were able to provide an example of an incident that occurred in the Ngaka Modiri Molema District in 2018 when an educator was stabbed to death by a learner at school. According to the interviewees, safety measures in schools need more attention and safety and security should be increased; not only to protect learners, but to protect the educators and all stakeholders who spend most of their daily lives on school premises.

Some respondents from the education sector indicated that there are safety and security committees in most schools, and these must be capacitated in disaster risk reduction. This would require those in disaster management to workshop them in terms of DRR issues. Moreover, respondents suggested that stakeholders including those in disaster management, police, social workers and officials from the Department of Health amongst others must host joint information sessions at schools to train learners and teachers on dealing with the hazards they are most commonly exposed to.

4.3.2.4. Thematic Area 4: DRR incorporated into the policies of the Department of Education

As mentioned before, all respondents concurred about the need to incorporate DRR into policies of the Department of Education and the curriculum. As outlined in section 2.2 of Chapter 2, policy governs the people and without policies, many organisations will not function properly and be without a mandate. During data collection, respondents indicated that DRR is incorporated into the policies of the Department of Education. However certain departments are prioritised over the others, for example, infrastructure, fire and drought. Hazardous incidents like earthquakes and floods do not receive more attention than others. This is so despite the fact that the National Disaster Management Centre made a presentation about the national disaster management policy to be incorporated in the Department of Education. Whereas the respondents acknowledged the importance and the need for mainstreaming DRR, most of them were not sure whose responsibility it was to make sure that it was mainstreamed into the Department of Education policies. The majority of respondents were of the view that this must be done at national level, as provincial and district levels implemented policies developed at national level. Some of the respondents in disaster management argued that the National Disaster Management Centre needed to have someone responsible for sector coordination and that this coordinator could then help the Department of Education to mainstream DRR in their policies and in the curriculum.

The same respondents mentioned that

“the power given to local municipal offices to educate the community about disaster risk reduction was and still is a major concern. The schools (school management team, and the safety team) are expected to implement the national DRR policies

in the schools after a one-day workshop conducted by the DRMC. This resulted in the breakdown of incorporating DRR into the policy framework of the Department of Education not to be strong”.

Information was not interpreted the same way, because no experts were involved in those education sessions. According to the respondents, in-depth workshops and thorough dissemination of information about DRR policy in the education department is required. Although DRR is not mainstreamed into the policies of the Department of Education, respondents indicated that issues relating to disasters and emergencies are catered for in the schools’ safety and security policies. Respondents further indicated that the Department of Education also uses the DRR national policy to mitigate and prevent hazards from occurring within the school environment. Other policy instruments identified by the respondents that highlights issues of safety include the NSNP and health policy. Respondents from district offices of the Department of Education elaborated that safety and security issues and some aspects of disasters are taught in Life Orientation and Geography. Topics such as climate change, drought, floods, and common risks and hazards are covered in Geography. Life Orientation is another subject that links all subjects taught at school and also instills knowledge about hazards and incidents that lead to disasters. However, there is no in-depth teaching about disaster.

Some respondents indicated that some schools invite DRR and fire services officials to schools to conduct drills and workshops on hazards and risks for the learners and the educators. It is evident that, although it is not formalised through policy, some form of DRR is mainstreamed in the curriculum and learners get to be appraised on some DRR-related issues. As evidenced by the responses from participants, there is the need to formalise the mainstreaming of DRR in the policies of the Department of Education and the curriculum. Importantly, the teachers responsible for Life Orientation and Geography must get more substantial DRR training a one-day workshop. This is important because respondents identified lack of resources, skills and knowledge about DRR and managing risk incidents as some of the challenges experienced by the educators. These challenges are discussed in detail under the next theme.

4.3.2.5. Thematic Area 5: Challenges for including DRR in education policies

In this thematic area, participants highlighted the challenges faced by the Department of Education with regard to the inclusion of DRR into education policies. Respondents also highlighted the practical effects that alleviate the challenges faced by the Department of Education. Respondents were able to articulate some of the effects that cause these challenges. However, the responses varied as few of the respondents felt that the negative effects could be minimised by not prioritising some departmental structures more than others, as highlighted in the statements below. Respondents highlighted that, as long as the organisations work well together, challenges would be minimised.

Lack of resources (human and financial resources)

The lack of resources, particularly human and financial resources, is a major challenge in the institutions responsible for DRR as well as in the education sector. Respondents from disaster management indicated that there is a shortage of skilled personnel with requisite qualifications to make sure that the function of implementing, managing and coordinating DRR is highly maintained. Whereas this is the case, respondents indicated that the lack of staff does not hinder current employees from fulfilling their roles and responsibilities in implementing the DRR policy. This is because the implementation of disaster risk reduction policy takes place mainly in partnership with other government departments in the province, districts and the municipalities. Such partnerships assist in sharing the costs of putting DRR measures in place.

Respondents from the education sector also indicated that the lack of human resources and skills, and knowledge of DRR-related issues in the Department of Education in the North West Province is a huge challenge. Respondents mentioned that, in the Dr Kenneth Kaunda District, the Department of Education does not have many officials to handle disaster-related issues. They indicated that only one official has been appointed to deal with disaster risk reduction issues and cases at more than 65 schools within the district. However, each school has educators appointed to deal with safety and security, infrastructure and health issues. The provincial and district offices of the Department of Education rely on the assistance of the disaster risk reduction and disaster management centre if any incident occurs, especially when schools are affected.

Some respondents mentioned that school safety committees report disaster issues to the education district office, and the education district office takes the information to the provincial education office. Feedback on these issues follow the top to bottom approach. Once the response reaches the school, the smooth running of teaching and learning can resume. Respondents also mentioned that workshops are conducted for some education officials, educators, or safety committee members to address DRR-related issues and awareness campaigns. These workshops in the end are conducted in schools to equip the learners and the community about disaster risk reduction.

Some respondents from the disaster risk reduction offices feel that they are spoon feeding the Department of Education by always doing the work (running awareness campaigns) for them. The campaigns educate the learners about risk reduction, but they do not have enough manpower and, very often, their work is hampered by a lack of funding from the DRR national office. Respondents complained that the Department of Education does not come to the financial aid of the disaster risk reduction management centres. Respondents mentioned that the DDMC (District Disaster Management Centre), with the PDMC, conducts awareness campaigns on disaster risk reduction in schools. Hence, respondents from the DDMC alluded that the Department of Education did not assist the disaster risk reduction office regardless of the efforts they showed. One of the respondents explained that

“The Department of Education always make excuses and states that their lack of involvement in awareness campaigns conducted in schools is due to their own lack of funding from the national education office. When it comes to disaster risk reduction and disaster management gatherings or awareness campaigns, the Department of Education never allocates enough funds. Funds that are allocated are given to different departments that are part of disaster risk reduction, like infrastructure and safety and security, and not to the disaster risk department within the education department. This places strain on the finances of the Disaster Risk Reduction Centres, who always go the extra mile.”

Lack of skills and knowledge about DRR policy

The respondents stated that the Disaster Management Centre Office at the provincial level is equipped with direct knowledge from the national office. The Provincial Disaster

Risk Officials are also academically qualified; hence they occupy the relevant positions within the Provincial Disaster Management Centre. The Dr Kenneth Kaunda District Disaster Management Centre is also equipped with a team with skills and knowledge about disaster risk reduction. However, the local municipal office team also has knowledge about disaster risk reduction; however, according to some respondents, it is not clear whether they have the required skills for the job. Respondents mentioned that the knowledge the local office possessed could be from the regular workshops given to the team by the department.

The same respondents mentioned that there was no disaster management team in the Department of Education from provincial to district level. There is no team equipped with skills and knowledge about Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM). There also was no DRR or DRM officials in the Department of Education in the North West provincial or district offices, or the Matlosana Education Area Office in Dr Kenneth Kaunda District. However, the Disaster Risk Department engages with the Department of Education regularly for the implementation of risk reduction and risk related issues in the Department of Education. The implementation of DRR policy at this stage is broad for a certain department in the Department of Education. The safety and security, health and infrastructure uses the assistance of the risk department from time to time when formulating and implementing risk policies within the Department of Education.

4.3.2.6. Thematic Area 6: Management of mainstreaming process of DRR into the education department

Questions that contributed to the development of this theme revolved around the respondents' understanding of monitoring, assessment and management of funds related to the integration of DRR into government structures in particular to the education department. This was considered important because it was anticipated that an understanding of the link between the education department policy and disaster risk would stimulate thinking on the necessity of integrating disaster risk reduction into the policy of the department of education.

Monitoring of DRR funds into DBE

According to the respondents, monitoring takes place regularly by disaster management centres from national to municipal disaster management level. Monitoring is done in the form of reports of all the activities completed by the Disaster Risk Reduction Department. When mitigation measures are put in place and the community is made aware of the disasters and disaster risks that they encounter daily through awareness campaigns i.e. drama and poems within the schools and the community at large that is when monitoring of the work done occurs. Monitoring focuses on whether the activities were a success or not and whether the funds were correctly used for those activities.

The respondents also added that

During the earthquake that took place in 2014, a process was followed to apply to the National Disaster Management Centre for the declaration of disaster in Dr Kenneth Kaunda District. Engineers were co-opted by the national disaster management centre to quantify the situation in order to be able to state how much is needed and for what. All required documents were compiled and sent to the national treasury for the transfer of funds. All the funds released were monitored by the provincial disaster management centre and reports were compiled and send back to treasury for report. All copies of the files which contains invoices from the contractors still exists and are kept in a safe place in the provincial disaster management centre.

The respondents also mentioned that the Department of Education used the same approach of compiling information about the disasters that occurred and then sending that information back to treasury before the funds were released. However, the funds were released through the Department of Infrastructure within the Department of Education and not Disaster Risk Reduction.

This was for the renovation of schools and reports of the workmanship and invoices from the contractors are also kept in a safe place within the Infrastructure Department in the Department of Education, even though copies were sent to the Department of Education at the national office. Thus it can be concluded that there is monitoring in both the Disaster Management Centre and the Department of Education in the North West Province.

Assessment of policy implementation into DBE

Respondents stated that assessment of the implementation of the policy and the work done in the province was conducted by the national Disaster Management Office during the monitoring process. Assessment of DRR policy into the education department policy is conducted from top to bottom (national, provincial, district and municipal). Assessment is done in order to identify any loopholes within the implementation process of disaster management policy and to give support where it is needed, whether it be hands-on or financial support.

However, respondents also mentioned that there was no assessment concerning Disaster Risk assessment in the Department of Education since no implementation of the disaster risk reduction policy was formulated by the Department of Education. Therefore, there is no monitoring and assessment of disaster risk reduction policy. Even if that is the case, there is assessment and monitoring of safety and security, health, and also infrastructure in the Department of Education. These structures do cater for the disaster risk reduction incidents in the Department of Education, therefore making assessment and monitoring compulsory. *“Assessment done was to check whether the work done was of quality or not in 2014. This assessment occurred after the money was paid to the contractors contracted to rebuild the schools”.*

Respondents mentioned that, after the assessment had been done by the Disaster Management Centre and the Education Department, they also recognised that the funds had been distributed accordingly; however, the work completed had been of very poor quality. The team mandated by the Education Department to monitor the work only assessed the buildings after the work had been completed and payments were made. The reports were submitted to the Department of Disaster Management Centre, which informed the Department of Education on the infrastructure side. A year later, after the assessment had been done, the schools started to complain about the work that had been done, which goes back to who assessed and monitored and also gave approval.

Care and support from DRR

The majority of the respondents, particularly those in the education sector, are of the view that issues of disaster risk are catered for in the safety and security, health and infrastructure policies. They argue that what is required is to change the language the

policy was written in to include DRR, and that this could be achieved with the assistance of Disaster Management Centres. The Department of Education is always at a financial disadvantage because there are no funds allocated for disaster risk reduction within the department. However, with regard to the disaster risk incidents, care and support is given to the Education Department by the Disaster Management Centre (DMC). The DMC gave support to the Department of Education by conducting awareness campaigns in the community and in schools and that shows caring for the community that they engage with daily.

Respondents also stated that financial support is given by the National Disaster Management Office to make sure that communities and the learners are equipped with knowledge of what disaster is, how and when to use mitigations measures put in place by NDRMC, and how it can be managed by the people who experience it one way or the other. With regard to the Department of Education there is minimal care and support of DRR, hence there is a need for policy formulation, implementation and mainstreaming of DRR into the Department of Education policy.

4.4. DISCUSSION

The review of 10 policy documents in the education sector in South Africa reveals that DRR is not mainstreamed in the policies. A number of key words related to DRR were used to evaluate if DRR is mainstreamed in the policies. Understandably so, the policy documents promulgated immediately after the dawn of democracy in South Africa in 1994 (1995 – 2000) do not contain any of the keywords. This is the period in which government was focused on equal education for all. However, Amendments to policy documents frameworks and reports developed from 2001 onwards contain some of the keywords. Surprisingly, one document, the Action Plan to 2019: Towards the Realisation of Schooling to 2030 does not contain any of the keywords. This is surprising because 2015, the year in which the document was developed is the year in which an International Framework for DRR, the Sendai Framework for Disaster Risk Reduction 2015 – 2030 was adopted. The fact that most of the codes used in the study such as disaster risk reduction, disaster management, disaster risk, disaster resilience, and disasters do not appear in all the policy documents analysed shows that DRR is not mainstreamed into the policies of the Department of Education. Moreover, the contexts in which the codes that appears in some of the documents is used does not prove that DRR is mainstreamed

in the policies of the Department of Basic Education in South Africa. For instance, the National School Safety Framework, in which the three keywords appear, disaster risk management is mentioned in passing and is reflected as a key aspect of school safety that is not covered in the framework. Similarly, the word hazard is also mentioned in passing and only in reference to moral harm (page 12). Moreover, safety in the document is used in relation to school violence only and no other hazards.

There is convergence between some findings of policy documents analysis and the views of respondents who participated in the empirical study. In Thematic area 1, respondents' perspective on disaster was that they were able to identify roles and responsibilities for each stakeholder during disaster. One of the most important role of the disaster management centres is to share information and create awareness before disasters. They mentioned that it allows for the learners, educators and ultimately the entire community to be aware of the hazards in their areas. Moreover, this helps them on how they must react when a disaster strikes. With health and safety guidelines put in place, respondents from the education sector indicated that their role is to make sure that learners are safe and are well equipped with knowledge.

In Thematic area 2, respondents were able to clearly identify the impacts of disasters in and out of the school environment. In the study, there are negative impacts that hampers with implementation of DRR into the Department of Education. The majority of respondents stated that these impacts are natural and cannot be ignored, the only way to deal with them is head on. Through well planned mitigation measures put in place, there will be less impacts of hazardous incidents that leads to disaster to occur. Therefore, proper implementation of DRR policy into the education department will surface. This is supported by literature in section 2.2 that states that policy formulation, implementation design, and analysis are needed to eliminate such impacts. Respondents mentioned that NSNP (National School Nutrition Project) - Schools feeding scheme is a scheme formed to assist learners from deprived families with a meal at school. The aim of the feeding scheme was to retain learners at school rather than learners leaving school to look for jobs to feed themselves. Respondents from the disaster management and few from the education sector are of the view that as good as the intention was, the NSNP also pose a risk in the learners' life's if it is not well managed by the school. They mentioned that the risks that the NSNP arises from are food poisoning, the use of unclean water from the

water tanks used during drought and lastly the fire that could be caused by the gas stoves used to cook learners' food. They also alluded that risks can and will be avoided rapidly when all procedures and processes are well adhered to.

Thematic areas 3 and 4, deals with the incorporation of DRR into the education sector. Respondents agreed that incorporation for disaster risk and the education department was important. They also mentioned that through the qualitative study they were able to indicate the ways that they used to engage with their counterparts with regard to working together of both departments. These included meetings, workshops and project-based activities to adopt and mainstream DRR into the policy framework of the Department of Education. Respondents were also able to identify some of the ways in which integration had to take place. Respondents unanimously agreed that the integration of various organisations DRR and education department was important. Majority of the respondents mentioned that the need to incorporate DRR into education is because of the hazardous incidents that occur within the schools. These incidents according to the majority of respondents in the disaster management, leave learners and the community traumatised after they occur which also changes the lives of the learners, and the communities are traumatised and not the same again. Respondents also mentioned that safety and security as part of DRR it is one of the major concerns in the schools, as gangsterism takes over the lives of the learners. They mention that educators and learners who are involved in those gangs and those who are not are at risk at all times. They believe that through learning and educating others about DRR could reduce the risk of an unsafe environment and risky behaviour.

In Thematic area 5, respondents alluded that challenges were emerging with the mainstreaming/ including DRR in the education department. This is in line with the findings of which reflected an overwhelming majority of respondents believed that there were major overlaps between disaster risk reduction and the Department of Education and the few disagreed. Moreover, respondents in the face-to-face interviews acknowledged the importance of joint departments with joining knowledge, skills and funding for mainstreaming DRR into policy of the Department of Education. They also indicated that they did not have programmes and projects that were jointly funded, which hampered with the implementation of mainstreaming DRR with education department. Respondents mentioned that lack of human and financial resources within both

departments hinders with the mainstreaming of both policies or rather incorporating DRR into the education department. Majority of respondents argue that lack of accountability during monitoring and assessment derails proper human and financial management. They also alluded that the derails from both departments are initiated by lack of skills and knowledge about DRR policy and its importance in human lives. Moreover, respondents acknowledged the importance of joint funding for disaster risk reduction and the education department that will decrease the relaxed stride of mainstreaming DRR policy into education department.

Thematic area 6, respondents of the qualitative study were able to indicate ways that were used to manage mainstreaming process of DRR into education department. Respondents were also able to identify some of the ways in which integration had to take place. Even though few were mentioned by the respondents like monitoring of DRR funds into DBE, assessment of policy implementation into DBE, care and support from DRR of the implementation of policy development. However, when it comes to the issues of formal written policy agreement between government organisations, the qualitative study and its results becomes imperative. Hence, an overwhelming majority of respondents in the qualitative study indicated that there was a need to mainstream DRR into the policy framework of the Department of Education. The merging of these two government departments is a need, in order to educate and inform the community about DRR. Conversely, an overwhelming number of respondents believed that educating and informing the community about mitigation measures will reduced the number if disastrous incidents that occur within the district.

Notwithstanding the fact that the National Minimum Uniform Norms and Standards for School Infrastructure of 2009 makes provision for safety particularly of school infrastructure, it is the submission of this study that DRR is not mainstreamed in the policies of the Department of Education in South Africa. It will therefore be crucial that issues of disaster risk reduction must be considered when the policies of the departments are reviewed. As stated elsewhere in this dissertation, one of the reasons that DRR is difficult to mainstream into policies of education is lack of awareness of this need by those in the education sector. It is therefore important that disaster management authorities engage with all development sectors to make them aware of their roles and responsibilities regarding DRR. More so for countries on the African continent, wherein

the AUC adopted mainstreaming DRR into the policies of the department of education and into the curriculum as an additional target to achieving the outcome as articulated in the Sendai Framework for Disaster Risk Reduction 2015 - 2030.

4.5. CONCLUSION

The findings of this study show substantial in depth knowledge of behavioural patterns revealed by qualitative research method. Although the findings of this study are only directly applicable in the studied context, they illustrate the need to integrate disaster risk reduction into the policy framework of the Department of Education within the Dr Kenneth Kaunda District. The empirical findings in this chapter re-emphasise the need for integrated approaches for mainstreaming disaster risk reduction into education policy. Respondents were able to provide reasons or a rationale need for mainstreaming of DRR into the Department of Education. Lack of mainstreaming into the policies of the Department of Education and the curriculum was found to impede efforts to reduce disaster risk through educating the learners at school, and ultimately the community about mitigation measures needed to reduce or the impact of disasters. Respondents were able to provide reasons or a rationale for not separating structures for disaster risk reduction and that of the education department. The effects of mainstreaming DRR into the education department as identified by the respondents were found to impede efforts to reduce disaster risk in the education department. Furthermore, participants were able to provide ways in which integration of structures for disaster risk reduction into education should unfold and identify the factors that would provide a conducive atmosphere for integration to take place. The ways in which integration should unfold as identified by the respondents are consistent.

CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

5.1. INTRODUCTION

This study contributes to an understanding of efforts to mainstream disaster risk reduction into the policies of the Department of Education in South Africa, using the DKK district in the North West Province as a case. This is important in lieu of the diverse impact that disasters have on children's education in times of disaster and even beyond, which leads to the risk of injury caused by hazardous incidents. Many communities may suffer disproportionately from the disease of water and sanitation and food insecurity that will cause a threat to their lives. The psychological and social implications as a result of losing family members, be forced into early marriage, families sending them out for work or suffer from violence and displacement may be the result of the occurred disasters. The UN (2014) indicates that incorporating risk reduction and resilience in education policy is critical for its application and sustainability. As such, the policies and plans need to address risk reduction and resilience in teaching and learning, school safety, and disaster management and ensure safe school environments (UN, 2014). This chapter commences by outlining a summary of the chapters. It also revisits the research objectives and gives an account of how each research objective was achieved. Lastly, the chapter provides some recommendations that can be employed by the Department of Education in the North West Province, particularly in the Dr Kenneth Kaunda District, about mainstreaming DRR in education policies.

5.2. OVERVIEW OF CHAPTERS

Chapter 1 provided the introduction and orientation to the study, outlined the problem to be investigated with the associated research questions and objectives, and the methodology and procedures that were followed for collecting both primary and secondary data for the study. The chapter also outlined the layout of the chapters of the dissertation.

Chapter 2 provided a review of the literature on policy formulation, implementation, and evaluation with a specific focus on the public sector. The chapter also elaborated on the structuring of the policy framework and all the stakeholders that took part in formulating, implementing, and designing public policy.

Chapter 3 focused the discussion on the mainstreaming of disaster risk reduction. The guidelines of how disaster risk reduction should be mainstreamed within the policy framework of the Department of Education were provided in this chapter.

Chapter 4 focused on the thematic presentation of the empirical findings as provided by the respondents in the study. Analysis and interpretation of the findings of the study were also provided in this chapter.

Chapter 5 provides the conclusion and recommendations of the study regarding the mainstreaming disaster risk reduction into the policy framework of the Department of Education in the Dr Kenneth Kaunda District of the North West Province.

5.3. ACHIEVEMENT OF THE RESEARCH OBJECTIVES

This section reflects on the extent to which the research objectives outlined in Chapter 1 were achieved

Objective 1: To evaluate how public policies are formulated, implemented and analysed;

In line with objective 1, the following research question was posed in Chapter 1 of the study

- **How are public policies formulated, implemented and analysed?**

The first research objective was successfully addressed in the literature review analysis in Chapter 2. Views from various authors were examined in response to the research objective. Chapter 2 outlined a theoretical overview of policy formulation, implementation, analysis and its impacts. The argument illustrated that policy is usually formulated when there is a need for the legislature to be used. In this case, a policy needs to be formulated by the Department of Education to mainstream disaster risk reduction and disaster management in the Dr Kenneth Kaunda District in the North West Province of South Africa.

Policy formulation and implementation have a severe influence that makes communities vigilant rather than being vulnerable. Additionally, the literature discussion analysed policy formulation and implementation impacts in a more specific and general manner.

The literature revealed that impacts of policy formulation and implementation vary according to government department and community. Lastly, the review of literature also focused on policy formulation and implementation and coping mechanisms that are used when communities have resources and the capacity to mitigate the formulated and implemented policies. These coping mechanisms include traditional coping strategies and modern coping strategies.

Objective 2: To outline the importance of mainstreaming DRR into the policies of the education sector;

In line with objective 2, the following research question was posed in Chapter 1 of the study

- **Why is it important to mainstream DRR into the policies of the education sector?**

This objective was achieved by reviewing the literature on DRR and mainstreaming DRR in Chapter 3. The literature argues for the mainstreaming of cross-cutting issues like disaster risk so that they can become everybody's business.

Objective 3: To assess how DRR can be mainstreamed into the policies of the education sector;

In line with objective 3, the following research question was posed in Chapter 1 of the study

- **How can DRR be mainstreamed into the policies of the education sector?**

This objective was achieved by reviewing the literature on DRR and mainstreaming DRR in Chapter 3 as well. The literature indicates that DRR can be mainstreamed through legislative and regulatory frameworks, policy and planning instruments, financial mechanism, institutional arrangements, decentralisation and capacity building.

Objective 4: To evaluate if DRR is mainstreamed into the policies of the Department of Education in South Africa;

In line with objective 4, the following research question was posed in Chapter 1 of the study

- **Is DRR mainstreamed in the policies of the Department of Education in South Africa?**

In chapter 4, the findings of policy documents content analysis as well as the empirical findings of the study were presented. In this regard, the objective was successfully achieved through the presentation of the findings in this chapter. This chapter concludes by proposing recommendations that can enable the learners and community to manage disaster incidents. The objective was achieved through the mitigation measures that were suggested towards possible policy formulation and implementation by the Department of Education, and the mainstreaming of disaster risk reduction into the policy framework of the Department of Education on the results of empirical findings. The DRM policy framework is the policy that is used at the district level of the education department even though there is no DRR department within the education district office.

5.4. SUMMARY OF THE FINDINGS

The following section is a summary of the findings:

1. Policy documents content analysis

A total of 10 policy documents from the Department of Basic Education were reviewed in this study. A total of eight keywords were identified to be used for evaluation of the policy documents. The findings of the policy documents analysis showed that five of the 10 documents analysed did not contain any of the eight keywords used. Moreover, there are no results for the keywords disaster risk reduction, disaster management, disaster risk, disaster resilience, and disasters in all the policy documents analysed. However, five other policy documents mention the keyword Disaster risk management, Hazards and Safety between one and 472 times per document. The keyword safety appeared 492 times, with the code appearing 472 times in one document, the National School Safety Framework (NSSF) of 2015. The other two keywords, disaster risk management and hazards are mentioned once each in the National School Safety Framework of 2015. The main finding of the study is that disaster risk reduction is not mainstreamed in the policies of the Department of Basic Education in South Africa, as there is no evidence of DDR in the policies and the context in which alternative keywords are used in the policies of the department cannot lead to a conclusion that DRR is mainstreamed.

2. The roles and responsibilities of stakeholders during disasters

There is an inadequate relationship between the Department of Education and the disaster risk reduction centre. The Department of Education makes it difficult for the Disaster Management Centre to work together by not supplying the DRR office with resources to use. The communication channel between the community and the Department of Education is not fully functioning; this is because of the lack of support that the community is providing the schools. The schools and communities seem not to be well informed about the necessary measures that they should take to eliminate or minimise the risks, hazards incidents that may lead to disasters within the community. The Department of Education does not have full control of the community nor access to it but through learners, the community can and will be educated about DRR. Shortage of knowledge, not being able to identify each other's roles becomes a problem during emergencies such as dealing with disaster incidents such as earthquakes, fires, drought, floods and many more to impact successfully.

There is a lack of disaster risk reduction practices; this means that schools do not train learners and educators about DRR practices in schools. The community does not necessarily make use of disaster risk reduction strategies for earthquakes, fires and drought episodes because of lack of knowledge and skills. This can be ascribed to the lack of a disaster management plan and knowledge because disaster risk reduction practices can be recommended when there are an existing policy and plan for the area. There is a lack of knowledge regarding disaster risk reduction within the schools. The causes of hazardous incidents are known by certain education officials and community members know how to deal with and prevent them when they occur. However, the schools and the communities do not have the necessary knowledge regarding prevention, mitigation and coping mechanisms. This in turn makes it difficult for the Department of Education to provide what is necessary to reduce the risk of disaster incidents and safeguard the schools within the communities.

The schools do not have the necessary skills to assist themselves during disaster incidents, they rather depend on the government for assistance. The schools do not take ownership when coping with disasters. The responsibility for earthquakes, fires and drought phenomena does not only lie with the government, but the schools and the community also have to take the necessary steps to reduce the impacts of these disaster

incidents. This increases dependency syndrome, while the schools lose the lives of their loved ones.

3. Impacts of disasters in schools- Hazardous incidents which lead to disasters which are associated with the Department of Education

The literature revealed that schools are faced with various disasters namely: earthquakes, drought, fires, floods and food poisoning. As indicated in chapter 1 (1.2), the Dr Kenneth Kaunda district is situated in a mining area which makes it prone to disaster, namely earthquakes. Drought and floods are driven by climate change which has a negative impact on the adaptation strategies provided by the governments to the schools and community. Food poisoning also has a negative impact on schools. Schools prepare meals for learners to alleviate hunger experienced within communities and meals prepared and accepted by the department as healthy. However, many times the issue of food poisoning is through lack of knowledge by the victim (affected person) who has allergies unknown to him or her. Communities with knowledge and skills on how to cope and adapt around DRR incidents become less vulnerable to risks. Therefore, the level of relief and response provided by the government is sufficient and the communities need consideration from the government to reduce these impacts, rather than to calculate the results of the episodes without any funding provision.

3. Safety and security

Challenges faced by educators in the schools is that educators do not have faith in the Department of Education to assist them with the hazards and disaster incidents that occur within the schools. There were several issues with which the Department of Education did not assist the schools with, instead, they made blank promises with fighting gangsterism within schools. In other instances, the Department of Education did not provide the schools with enough security for safety purposes, which the communities were dependent on for a reduction in fighting, which leads to stabbings and deaths within the schools. This caused the community to lose trust and faith in the government.

Gangsterism is also increasing in schools, which also puts the lives of innocent people at risk. However, the changing perception in the community about violence can be emphasised through a few awareness campaigns within the community.

4. DRR incorporated into the policies of the Department of Education

Lack of incorporation of DRR policy into the education sector has led most communities in the Dr Kenneth Kaunda district, especially the Matlosana area, to be vulnerable to disasters. This has led the community of Matlosana not to comply with the DRR policies and frameworks effectively. Hence, community members still engage in dangerous illegal mining, and learners are left unattended, playing in unauthorised, unused mining areas. By incorporating DRR policy into the education sector addresses the issue of coping and adaptation in schools when disaster strike.

5. Challenges of including DRR in education policies

The Department of Education (district level) does not have a disaster management plan that can be used to identify the issues relating to disaster incidents. Some government officials do not perceive the formulation and implementation of disaster risk into the Department of Education as a need to eliminate hazard and risks, although the research has indicated earthquakes, fires and drought as the most prominent hazards in the area. This is because the district Department of Education does not have a disaster management policy that gratifies for the district alone. The Department of Education does not have enough funding provision for disaster-related issues, hence funds are requested from the treasury when disasters strike. Funding provision for disaster incidents within the Department of Education is made available when the affected education offices and schools within the municipality/province request it. However, in previous episodes of earthquakes, fires and drought, the Department of Education and DRR government were unable to provide all the schools with good work because of poor men's work that was done to the school buildings.

The level of relief and response provided by the Department of Education during disaster incidents within the department is not sufficient. The government conducts assessments to make funding provision for the schools. However, that funding might not be sufficient for the Department of Education, as a result, some departments within the education sector (disaster risk reduction) suffer the most because of a lack of assistance from the government. Lack of skills and knowledge about DRR policy is due to a lack of funding because there is a lack of awareness campaigns and workshops by both departments to educate schools and the community.

6. Management of the mainstreaming process of DRR into the education department

Mainstreaming of disaster risk reduction into the policy framework of the Department of Education has its shortcomings, which affect formulated policy and the implemented one by the Department of Education. This increases the vulnerability context of the stakeholders within the Department of Education and the disaster risk reduction centres (Abbasov, 2018). The national office has formulated, implemented, designed and analysed DRR policy, however, there is a lack of monitoring and assessment of implementation and both the policy and funds. However, monitoring and assessment occurs at the national and provincial office and disappears when it reaches the district office of the education sector. Monitoring and assessment show care and support not only in work-related matters but also emotionally.

5.5. RECOMMENDATIONS

This study aimed to ensure that the need for mainstreaming DRR into the Department of Education was given the necessary attention. Based on the research findings, below are the recommendations emanating from the literature reviewed. These recommendations are based on incorporating DRR into the policy framework of the department of education. These recommendations emanate from the themes that were articulated after data collection. These recommendations are highlighted in the section below.

Recommendation 1: National Disaster Management Centre together with other centres at decentralised levels must coordinate sectoral integration of DRR

As stated elsewhere in this dissertation, one of the reasons that DRR is difficult to mainstream into policies of education is lack of awareness of this need by those in the education sector. It is therefore important that disaster management authorities such as the National, Provincial, District as well as Local Municipality Disaster Management Centres, must engage and coordinate with all development sectors to make them aware of their roles and responsibilities regarding DRR. In this regard, sectoral forum meetings and awareness campaign will be crucial. Pandemics such as COVID-19 has provided opportunities for sectoral coordination and joint planning and such opportunities must be exploited to increase the visibility of DRR.

Recommendation 2: Disaster risk reduction must be made a national priority

Issues of disaster risk must be clearly articulated in the National Development Plan. Once this is done DRR will be prioritised and this will make it easy for DRR to be mainstreamed into all development sectors. At the moment disaster risk reduction is dealt with on a piece-meal fashion and it is viewed as a function of disaster management authorities.

Recommendation 3: Safety and security

The empirical findings revealed that many hazardous incidents occur in schools, which makes the school environment unsafe. Schools are vandalised, making learners and educators vulnerable. Thugs enter school premises without permission one way or the other therefore putting at risk the lives of innocent people. By incorporating DRR policies into the education sector prepares the school for prevailing hazards. By conducting awareness campaigns once a week, the majority of community members will be able to attend and also serve as opening channels of communication between law enforcement and the community. These awareness campaigns provide communities with the chance to communicate the messages more effectively. It is therefore recommended in the study that the government (in this case the education department needs to drive the mainstreaming) should implement a top to bottom approach in enforcing law and order within communities and schools. The enforcement should not only focus on Dr Kenneth Kaunda district but to the whole country because educators are being brutally murdered in schools by the learners.

Recommendation 4: DRR incorporated into the policies of the Department of Education

It is therefore recommended that the government should incorporate DRR policy into the education department. This will provide the community with knowledge and skills taught to the learners at school and provide adequate coping and adjustment strategies. As highlighted in chapter 3 (3.7), learners are not to be used and seen as bystanders. However, when given the chance, they are to educate and equip the community and make them aware of prevalent hazards that they are vulnerable to.

Recommendation 5: Management of mainstreaming process of DRR into the education department

Management: The government should manage and monitor the funds distributed to projects and also what the money does in these projects. In the case of formulating and implementation of policy, committees can be formulated and work together to do research and come up with methods and time frames of how to implement the policy. These committees will be managed by the established committee informed by the government in this case, and also the funds used will also be managed and accounted for through the established committee. Management should be done regularly to keep the consistency of what the committees are doing. Assessment/Monitoring: Monitoring and assessment should be done regularly (twice per term) to ensure the effective progress of the work prepared about mainstreaming to eliminate slovenly work or work not done. Constant monitoring of different structures will bring stability and progress within those structures. The government should be distributing social workers, health officials, and SAPS to schools daily as educators are facing lots of challenges in schools. Schools are no longer safe places for learners, as gangs are part or form part of the same learners within the schools. Regular stabbings and fights occur as a result of gang-related incidents in schools.

Social workers could assist the learners who have life challenges like rape, bullying, abuse at home or have emotional challenges rather than leaving all the work to be done by the educators. Health officials must also be deployed to schools as learners have lots of different illnesses that need the assistance of a qualified health worker and not educators. By deploying the mentioned government structures into education, the community will receive the chance to be educated about risks they are vulnerable to and enhancing the community's' effective implementation of coping and adapting skills.

Recommendations for future research

- Evaluate the effectiveness and efficiency of integrated policy between the disaster management centres and the Department of Education (schools);
- Demonstrate empirically that the integration of organisations for disaster risk reduction and the Department of Education contributes to reduced disaster risk.

- Incorporate disaster risk reduction into the policy framework of the education department at sub-national levels; and
- To explore intergenerational relationships and the influence that the new generation has on the decision making of the older generation about knowledge about disaster risk reduction;
- To establish the effectiveness of the adaptation strategies that the Dr Kenneth Kaunda district community could implement towards prevalent hazards, particularly those that have emerged from the district.

Incorporate assessment and effective monitoring tools within both departments at national, district and local

5.6. CONCLUSION

This chapter outlined and summarised the entire study and the findings from other chapters. Based on the findings, different conclusions were outlined and several recommendations were made. Several prominent issues hampered the mainstreaming of disaster risk reduction into the policy framework of the Department of Education. Failure to address this may permit disastrous incidents or episodes to have a significant or increased impact on the community. One main issue that may hamper the mainstreaming of disaster risk reduction into the policy framework of the Department of Education in Dr Kenneth Kaunda District is the deficiency of disaster management plan and policy already revealed in the study. This is an issue for the government as they are not able to prioritise disaster incidents in the area of Dr Kenneth Kaunda District. However, the Department of Education and the disaster management centre within the district requires to conduct a community-based disaster risk assessment (CBDRA) or develop a disaster management plan that can inform them (both departments) of necessary services to be conducted in the community.

The second most prominent issue that has been established in the study is funding provision. The funding method that is currently in use does not assist the Department of Education and the disaster risk management centre in time. The process appears to be time-consuming before the Department of Education can be assisted and this, in turn, increases the impact of disastrous incidents in the community. For mitigation measures to be effective, funding provision has to be effective and efficient. This will assist the

government not to depend on the assessments that are conducted after several months. For government to be prepared and assist the Department of Education timeously, a better funding method is necessary. This study attempted to contribute by providing more knowledge regarding disaster incidents within the community of Dr Kenneth Kaunda district, and how they can be managed if not prevented through mitigation plans formulated by the Department of Education in the North West Province. Necessary recommendations were made available and are to be engaged. This dissertation was completed in the hope that the findings and suggestions would permeate into the decision-making processes of both the Department of Education and the disaster management centre into working together to educate and equip the community with the necessary information.

BIBLIOGRAPHY

Abbasov, R. 2018. Mainstreaming of Disaster Risk Analysis into Development of Gabala District, Azerbaijan. In *Community-Based Disaster Risk Management in Azerbaijan* (pp. 25-47): Springer.

Abelson, D. E. 2000. Do think tanks matter? Opportunities, constraints and incentives for Think Tanks in Canada and the United States. *Global Society* 14(2):213–236.

Aghaei, N. Seyedin. H, Sanaeinasab. H. 2018. Strategies for disaster risk reduction education: A systematic review. *Journal of Education and Health Promotion* | Published by Wolters Kluwer – Medknow

Aini, M. & Fakhrul-Razi, A. 2010, Development of socio-technical disaster model, *Safety Science* 48(10), 1286–1295. <http://dx.doi.org/10.1016/j.ssci.2010.04.007>

Anderson, J. E. 2010. *Public policy making-An introduction* (7th ed.). Boston MA: Wadsworth.

Anderson, L.G. and Settle, R.F. 1979. *Benefit-cost analysis: a practical guide*. Canada: Lexington.

Aronson, J. 1995. A pragmatic view of thematic analysis. *Qualitative Report*, 2(1): 1-3.

Babugura, A. 2008. Vulnerability of children and youth in drought disasters: A case study of Botswana, *Children, Youth and Environments* 18(1), 126–157.

Backenberg, G.R. & Viljoen, M.F. 2003. Drought management in South Africa. Paper presented at a workshop of the ICID Working Group on “Irrigation under drought and water scarcity”, Tehran IR of Iran, 13-14 July 2003.

Benson et al. 2006. Anthropology in the Clinic: The Problem of Cultural Competency and How to Fix It. *PLoS Med* 3(10):e294.

Bonneau, Chris W. Thomas H. Hammond, Forrest Maltzman and Paul J. Wahlbeck. 2007. Agenda Control, the Median Justice, and the Majority Opinion on the U.S. Supreme Court. *American Journal of Political Science* 51(4):890-905.

- Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2): 77-101.
- Briceño, 2006. Strategic Regionalism and Regional Social Policy in the FTAA Process. <https://doi.org/10.1177/1468018107082236>
- Brinkerhoff, D. W. & Crosby, B. L. 2002. *Managing policy reform*. Bloomfield: Kumarian Press.
- Brodkin, E.Z. 2000. *Investigating Policy's 'Practical' Meaning: Street-level Research on Welfare Policy*. University of Chicago Joint Center for Poverty Research, JCPR Working Papers Number: 162.
- Brynard, P.A. 2007. The Nature of the Policy Problem. *Journal of Public Administration*, 41(2.2):357-373.
- Buckland, J & Rahman, M. 1999. Community-based disaster management during the 1997 Red River Flood in Canada. Canada.
- Carrim, Y. 2003. Brief overview of the legislative process of the Disaster Management Act (Act 57 of 2002). Intergovernmental Conference on Disaster Management. 21± 23 May 2003. Gauteng, South Africa.
- Chagutah, T. 2009. Towards improved public awareness for climate related disaster risk reduction in South Africa: A participatory development communication perspective. *Jàmbá: Journal of Disaster Risk Studies*, 2(2):113-126, Nov.
- Chakrabarti P.G. 2017. *Mainstreaming Disaster Risk Reduction for Sustainable Development: A guidebook for the Asia-Pacific*. United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), R2R Series.
- Chowdhury, N, C. Finlay-Notman, and I. Hovland, 2006. CSO capacity for policy engagement: Lessons learned from the CSPP consultations in Africa, Asia and Latin America. Overseas Development Institute. Working paper 272.
- Cloete. F, Wissink. H and de Coning C. 2006. *Improving Public Policy from theory to practice: Second edition*. Van Schaik Publishers. Pretoria.

Cloete, F, Wissink, H and de Coning C. 2008. Improving Public Policy from theory to practice: Third edition. Van Schaik Publishers. Pretoria.

Connolly, C. 2003. "Drugmakers Protect Their Turf: Medicare Bill Represents Success for Pharmaceutical Lobby." The Washington Post, November. Washington Post.

Cronje, R.J. 1993. Applied Environmental Education and Communication. Volume 10.

Cullis, J and Jones, P.1992. Public finance and public choice: analytical perspectives. London: McGraw-Hill.

Cusworth, J.W and Franks, T.R. 1993. Managing projects in developing countries. Essex. Longman.

Disaster Management Act No. 57 OF 2002.

Disaster Management Regulations Act, 2002.

National School Safety Framework of 2015, Republic of South Africa

De Vos 2007. Research at Grass Roots. A Primer for the caring professions. South Africa.

De Vos, A. S., Strydom, H., Fouche, C. B. & Delpont, C. S. L. 2012. Research at grass roots: 12th addition. Pretoria: Van Schaik

Dror, Y. 1986. Policy making under adversity. New Brunswick: Transaction Book.

Du Plessis, 1971. An analysis of public policy implementation. South Africa. UNISA.

Dye Thomas. 1984. Understanding public policy. Prentice-Hall. Michigan University.

Edwards G.C. and I. Shakansky, 1978. The Policy Predicament: Making and Implementing Public Policy: San Francisco: W.H. Freeman and Company.

Entman, R. M. 2004. Projections of power: framing news, public opinion, and U.S. foreign policy. Chicago: University of Chicago Press.

Fenger, M. and P-J. Klok, 2001. Interdependency, beliefs, and coalition behaviour: A contribution to the advocacy coalition framework. Policy Sciences 34:157–170.

Gibbs, G.R. 2007. Analyzing qualitative data. London: Sage Publications.

Ginige, K., Amaratunga, D. & Haigh, R. 2009. 'mainstreaming gender in disaster reduction: Why and how?' *Disaster Prevention and Management* 18(1), 23–34.
<http://dx.doi.org/10.1108/09653560910938510>

Gitlin, T. 1980. *The Whole World is Watching: Mass Media in the Making and Unmaking of the New Left*. Berkeley: University of California Press.

Giuliani, A., Wenger, R. & Von Dach, S.W. 2009. Disasters risks reduction: A gender and livelihood perspective. *Info Resources* No 2/09. August 2009. [Web:]
http://www.inforesources.ch/pdf/focus09_2_e.pdf [Date of access: 25 Feb. 2010].

Global Facility for Disaster Risk Reduction (GFDRR), 2012. *Reducing Disaster Risk for Sustainable Development*. Washington.

Global Baseline Report, 2012. *Assessing school safety from disasters a global baseline report*. UN.

Global Network for Disaster Risk (GNDR). 2011a. 'VFL Handbook, Member resources', viewed 23 November 2011, from <http://www.globalnetwork-dr.org/document-library.html>.

Government of South Africa 2006. *South African Schools Act 84 Of 1996, Amendment: Regulations For Safety Measures At Public Schools Government Notice No.1128 in Government Gazette, No. 29376 dated 10 November 2006*.

Grinell, Jr.R. M. and Unrau, Y.A. 2005. *Social work research and evaluation: Quantitative and Qualitative approach*, 7th edition. New York: Oxford University Press.

Guha-Sapir, D., Vos, F., Below, R. & Ponserre, S. 2010. 'Annual Disaster Statistical Review.The numbers and trends', viewed 03 May 2012, from
<http://www.undp.org/crmi/docs/cred-annualdisstats2010-rt-2011-en.pdf>.

Hall, D. M., & Steiner, R. 2020. Policy content analysis: Qualitative method for analysing sub-national insect pollinator legislation. *MethodsX*, 7, 100787.
<http://dx.doi.org/10.1016/j.envsci.2018.12.026>

Hallsworth, *et al.* 2011. *Policy Making in the Real World*. Institute for government. London

Handmer, 2007. Handbook of Disasters and Emergency Policies and Institutions. Australia.

Hansford, Thomas G. and James F. Spriggs, II. 2006. *The Politics of Precedent on the U.S. Supreme Court*. Princeton: Princeton University Press.

Hanzl, S; Meschik, M and Sammer G. 2002. Policy Formulation and Implementation. Vienna: University of Bodenkultur.

Hassanain, M. 2006. 'Towards a design and operation of fire safe school facilities', *Disaster. Prevention and Management* 15(5), 838–846.

http://www.preventionweb.net/files/7817_UNISDRTerminologyEnglish.pdf. Date of access: 25 Feb. 2013.

(Hayles, 2010. An examination of decision making in post disaster housing reconstruction. Cardiff Metropolitan University.

Hartnady (2010). Disaster Risk Reduction through school learners' awareness and preparedness. University of Pretoria. South Africa.

Health Canada: Women's Health Bureau. 2003. *Exploring concepts of Gender and Health* Ohawa, Ontario: Canada.

Henstra, D. McBean, G. 2005. Canadian Disaster Management Policy: Moving towards a Paradigm Shift? *Canadian Public Policy/ Analyse de Politiques*, Vol. 31, No.3. (Sep, 2005), pp. 303-318.

Hochrainer-Stigler, *et al.*, 2011. The cost and benefits of reducing risk from natural hazards to residential structures in developing countries. Working Paper. Pennsylvania University. USA.

Hogwood, B and Gunn, L. 1984. Policy Analysis for the real world. Oxford University Press. Oxford.

Howlett M and Ramesh M. 1995. Studying public policy. New York: Oxford University Press.

Hsieh, H. F., & Shannon, S. E. 2005. Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.

Iglesias G. 2010. Mainstreaming Disaster Risk. Asian Disaster Preparedness Centre (ADPC).Asia.

International Decade for Natural Disaster Reduction (IDNDR) 1990-2000

International Strategy for Disaster Reduction (ISDR). 2004. Living with risk: A global review of disaster reduction initiatives. Geneva: ISDR Secretariat.

International Strategy for Disaster Reduction (ISDR). 2009. Drought risk reduction framework and practices: contributing to the implementation of the Hyogo-framework for action. http://www.unisdr.org/files/11541_DroughtRiskReduction2009library.pdf Date of access: 7/08/2013.

International Strategy for Disaster Reduction (ISDR). 2011(b). Let's learn to prevent disasters! Fun ways for kids to join in Risk Reduction.

Isaacs, S. and Irvin, A. 1991. Population Policy: A manual for policymakers and planners, Second Edition. New York: The development Law and Policy Program, Center for Population and Family Health, Columbia University, and Futures Group.

Ishola, A., Nwogwugwu, N., Nwaodike, C., and Ogu, M. 2019. Legislators' role in problem identification and agenda setting in public policy process in Nigeria.

International A framework for public policy analysis and policy evaluation

M. Theo JansJournal of Advanced Research. 7(3), 458-466.

<http://dx.doi.org/10.21474/IJAR01/8657>

Jansson, M.T.1994. A Framework for public policy analysis and policy evaluation. University of Brussel.

Jayarama, V. 2015. Managing the Natural Disasters from Space Technology Inputs; Acta Astronautica Vol. 40, No. 2-8, pp. 291-325, 1997.

Jordan, A. 1995. Implementation Failure or Policy Making? How do we theorise the implementation of European Union (EU) Environmental Legislation? CSERGE Working Paper GEC 95 – 18.

Joubert, H.J. and Prinsloo, I. J. 2009. The law of education in South Africa. Pretoria: Van Schaik Publishers.

Kancharla, R. 2019. Child Centered Disaster Risk Reduction (CC DRR)/Resilience. In Disaster Risk Reduction (pp. 261-276): Springer.

Kellet and Caravani, 2012. Financing Disaster Risk Reduction. Overseas Development Institution. London.

Kemp, R.B. 2008. 'Public participatory GIS in community-based disaster risk reduction'.

Khan, A.R. 2016. Policy implementation: some aspects and issues. Bangladesh East West University. Bangladesh.

King, B.G.2000. The stages of the policy process and the equal rights amendment. University of Chicago. Chicago.

Le Roux, T. 2013. 'An exploration of the role of communication during the in-crisis situation', *Jàmhá: Journal of Disaster Risk Studies* 5(2), Art. 67, 9 pages. <http://dx.doi.org/10.4102/jamba.v5i2.67>

Legotlo, M.W.2014. Challenges and issues facing the Education System in South Africa. Africa Institute. Pretoria.

Loy, R., Sanjaya, B., Ma, M.K., Anisur, R. and Roy, A.S. 2007. Mainstreaming disaster risk reduction (DRR) into education sector, a priority under Regional Consultative Committee (RCC) program on mainstreaming DRR into development policy, planning and implementation in Asia. *Asian Disaster Manage News*, 13, pp.1-5.

Lubell, M. 2007. Familiarity breeds trust: Collective action in a policy domain. *The Journal of Politics* 69(1):237–250.

Luetjens, J. 2019. Designing for policy success. *International Review of Public Policy* 1 (1:2), 119-146, 2019.

Maltzman, Forrest, James F. Spriggs, II and Paul J. Wahlbeck. 2000. *Crafting Law on the Supreme Court: The Collegial Game*. New York: Cambridge University Press.

- Matland, R. 1995. Synthesizing the implementation literature: The ambiguity-conflict model of policy implementation. *Journal of public administration research and theory*, 5(2):145-74.
- Maree, K. & Pietersen, J. 2010. Sampling, In Maree, K., ed. *First steps in* McMillan, J.H. & Schumacher, S. 2001. *Research in education: a conceptual introduction*. 5th ed. New York: Longman.
- Martin, M.L., 2010. 'Child participation in disaster risk reduction: The case of flood affected children in Bangladesh', *Third World Quarterly* 31(8), 1357–1375.
- Masondo, Siphon. 2016. [*"Education in South Africa: A system in crisis"*](#). CityPress. Retrieved 4 May 2017.
- Maxwell, J.A. 2013. *Qualitative research design: an interactive approach*. 3rd ed. Washington, DC: Sage.
- Mazmanian, D. A. & Sabatier, P. A. 1989. *Implementation and public policy*. Lanham: University Press of America.
- McGann, J. D. 2005. *Think tanks and policy advice in the US*. Think Tanks and Civil Societies Program, Foreign Policy Research Institute, Philadelphia, Pennsylvania. Available online at www.Fpri.org.
- McInnes-Dittrich, K. 1994. *Integrated social welfare policy and social work practice*. Pacific Grove, CA: Brooks/Cole.
- Maxwell, J.A. 2013. *Qualitative Research Design: An Interactive Approach*. George Mason University.
- Mercer et al, 2008. *The Value and Challenges of Participatory Research: Strengthening Its Practice*. McGill University. Canada.
- Meter, D. S. V., & Horn, C. E. V. 1975. The policy implementation process: A conceptual framework, *Administration and Society*, 6, 445-488.
- Mintrom, M. (2019). *Public Policy. Investing for a better world*. USA: Oxford University Press.

Molekwa, S., 2013. 'Cut-off lows over South Africa and their contribution to the total rainfall of the Eastern Cape Province', MSc thesis, Dept. of Geography, Geoinformatics and Meteorology, University of Pretoria.

Mouton, J. Auriacombe. C.J. & Lutabingwa, J. 2006. Problematic aspects of the research, design and measurement process in public administration research: conceptual considerations. *Journal of Public Administration*, 41 (3:1): 574-58.

Moya, J. 2002. Approaches to policy implementation. In MM Research Report. Education policy implementation in Mpumalanga. Johannesburg: Graduate School of Public and Development Management, University of the Witwatersrand.

Mthethwa. R.M. 2012. Critical dimensions for policy implementation. UNISA: Pretoria

Mulegeta, G., Ayonghe, S., Daby, D., Dube, O., Gudyanga, F., Lucio, F. & Durrheim, R., 2007. Natural and human-induced hazards and disasters in sub-Saharan Africa, ICSU Regional Office of Africa, Pretoria, viewed 17 August 2011, from http://www.fanrpan.org/documents/d00447/ICSUROA_Hazards_Disasters_Aug_2011.pdf.

Myers, M.D. 2004. Qualitative research in information systems. <http://qual.auckland.ac.nz/> Date of access: 30 August 2012

Neuman, W.L. 2006. *Social Research Methods: Qualitative and Quantitative Approaches*. 6th ed. Boston: Pearson Education International.

Nguyen, C.V. and Minh Pham, N., 2018. The impact of natural disasters on children's education: Comparative evidence from Ethiopia, India, Peru, and Vietnam. *Review of Development Economics*, 22(4), pp.1561-1589.

Nkoka, F. S. 2019. Output 2: Mainstreaming DRR and CCA into Local Development Plans.

Palumbo, *et al.* 1990. Street-wise social policy: Resolving the dilemma of street-level influence and successful implementation. *Western Political Quarterly* 43 (4), 833-848 1990.

Perry, Jr., H.W. 1991. *Deciding to Decide: Agenda Setting in the United States Supreme Court*. Cambridge, MA: Harvard University Press.

Plannet International 2014. Empowered lives. Resilient nations. UN

Plan International, 2016. Safe Schools Global Programme. Available on www.plan-international.org. Visited July 2017.

Planet International, 2015. School safety. Working together as one in making children in schools and communities' resilience: ASEAN.

Posavac E.J, AND Carey R.G. 1980. Programme valuation, methods and case studies. New Jersey: Prentice-Hall.

Potgieter, M.L.1980. Moral Education or Indoctrination in South Africa? A Brief Response. South Africa

Pressman, J. L., & Wildavasky, A. 1973. *Implementation: How great expectations in Washington are dashed in Oakland*. Berkley: University of California Press.

Pub, 1984. Strengthening Law and Disaster Risk Reduction (DRR). Indonesia

Rahman, M. M., Nabila, I. A., Islam, F., Tasnim, F., Tabassum, S., Tanni, K. N., & Roy, T. 2020. Challenges to Implement Disaster Risk Reduction in Schools of Developing Country: Study on Dhaka City, Bangladesh. *International Journal of Sustainable Development Research*, 6(2), 37. doi: 10.11648/j.ijdsr.20200602.13

Rego, A. 2010. Mainstreaming Disaster Risk Reduction. Asia. Republic of South Africa (RSA), 2013, *Disaster management amendment bill*, RSA, Pretoria.

Rolleri, L.A. 2013. Understanding Gender and Gender Equality, Gender and Sexual Health part one, Act for Youth Centre of Excellence, Research Facts and Findings, New York, Cornell University, University of Rochester, and New York State Center for School Safety. Saechao, 2007:683-684

Ronilda, C. 2010. Mainstreaming Disaster Risk Reduction into National and Sectoral Development Process. Asia.

Roshani, P. 1997. Journal of Disaster Risk Studies 1996-1421 2072-845X AOSIS JAMBA-8-218 10.4102/jamba.v8il.

Sabatier, P.A and Mazmanian D.A. 1979. Implementation and Public Policy. University of California. New York.

Sabatier, P.A. 1986. Top-down and bottom-up approach to implementation research: A critical analysis of and suggested synthesis. *Journal of public policy*, 6(1):21-48.

Scheufele, D. A., & Tewksbury, D. 2007. Framing, Agenda Setting, and Priming: The Evolution of Three Media Effects Models. *Journal of Communication*, 57(1), 9–20.

Schutte, D. 2006. The dendrogram technique as a tool to development questionnaires. *Journal of Public Administration*, 41(3.1):616-630.

Selby, D. and Kagawa, F., 2012. Disaster risk reduction in school curricula: case studies from thirty countries, UNESCO, Paris, France and UNICEF, Geneva, Switzerland.

Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR), 2015. UN

Shafritz J.M. 1998. International encyclopedia of public policy and administration. Boulder, CO: Westview.

Shaw *et al.* 2004. Social Capital: A missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters* 22 (1), 5-34, 2004.

Shaw, R., Matsuoka, Y. & Tsunozaki, E., 2010. *A guide for implementing the HyogoFramework of Action. Japan.*

Simon *et al.* 2010. Integrating poverty and environmental concerns into value-chain analysis: a conceptual framework. *Development policy review* 28 (2), 173-194, 2010.

Strauss, A and Corbin, J. 2001. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory 3rd ed. Thousand Oaks. CA: Sage.

Struwig, F. W. & Stead, G. B. 2001. Planning, designing and reporting research. Cape Town: Pearson Education South Africa.

Taylor, G., 2014. 'Current measures to address the social vulnerability of children in disaster risk reduction—Exploring the European Union's disaster risk reduction strategy', *Global Risk Forum Davos Planet@Risk* 2(2), 77–84.

United Nations (UN). 2017. Mainstreaming Disaster Risk Reduction for Sustainable Development: United Nations. Asia.

United Nations Children's Fund (UNICEF). 2011. Humanitarian Action for Children. Building Resilience. USA- New York. <http://www.unicef.org/hac2011>.

United Nations Development Programme (UNDP). 1992. An overview of disaster management. Geneva: UNDP-DMTP.

United Nations Development Programmes (UNDP). 2011. Gender Mainstreaming in Disaster Risk Reduction: Manual Training of Trainers, Armenia, United Nations Development Programme.

United Nations Economic and Social Council (UNESCO). 2014. Integrating disaster risk reduction and climate change adaptation for sustainable development: Note by the Secretariat. Economic and Social Commission for Asia and the Pacific, Committee of Disaster Risk Reduction, Third Session, 27 – 29 November 2014, Bangkok, Thailand.

United Nations International Strategy for Disaster Reduction (UNISDR). 2009. UNISDR terminology on disaster risk reduction. Geneva: UNISDR. http://www.preventionweb.net/files/7817_UNISDRTerminologyEnglish.pdf. Date of access: 25 Feb. 2013.

United Nations International Strategy for Disaster Reduction (UNISDR). 2012. Assessing school safety from disasters a global baseline report. Geneva, Switzerland

Vaismoradi, M, Bondas T, and Turunen, H. 2013. Content Analysis and Thematic Analysis: Implications for Conducting Qualitative Descriptive Study. *Journal of Nursing Health and Sciences*. <https://doi.org/10.1111/nhs.12048>

Vaismoradi, M., Turunen, H. & Bondas, T. 2013. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nursing & Health Science*, 15(3):398-405

Van der Meter, C & Van der Horn, B. 1974. The role of policy actors and contextual factors in policy agenda setting. Rockville Pike: USA

World Bank, 2005. The World Bank's Country Policy and Institutional Assessment. An Evaluation.

Van Niekerk, D. 2011. Concept Paper: The South African Disaster Risk Management Policy and Legislation – A critique. North-West, University, Potchefstroom.

Vogel, D. 1998. The Globalisation of Pharmaceutical Regulation- Vogel-1998- Governance- Wiley Online Library.

Walsh, S. 2017. Mainstreaming disaster risk reduction in Nepal: The rhetoric and the reality. Northumbria University.

Welman, C., Kruger, F. & Mitchell, B. 2006. Research Methodology. Cape Town: Oxford University Press.

Yankelovich, D. 1992. A widening expert/public opinion gap challenge 35 (3), 20-27, 1992.

Zafonte, M. and P. Sabatier, 2004. Short-term versus long-term coalitions in the policy process: Automotive pollution control, 1963–19

ANNEXURES

Annexure 1



African Centre for Disaster Studies
Unit for Environmental Sciences and Management
Faculty of Natural and Agricultural Sciences
North-West University
Private Bag X6001
Potchefstroom
2520
Tel: +27 (0)18 299 1632
Fax: +27 (0)87 231 5590
E-mail: lesego.shoroma@nwu.ac.za
24 July 2018

To Whom It May Concern

Mrs. Moithumi C. Kaibe, student Number 21538034 is a registered student at the North-West University for a Master of Sciences: Environmental Sciences with Disaster Risk Sciences: titled: Mainstreaming disaster risk reduction in the policy framework of the education sector: the case of Dr. Kenneth Kaunda District Municipality, Republic of South Africa.

The study aims is to evaluate the mainstreaming and implementation of the disaster risk reduction policies in the education sector in South Africa, using Dr. Kenneth Kaunda District Municipality education department as a case.

As part of the empirical evidence for his study Mrs. Kaibe is expected to collect data for her studies from officials dealing with response to disasters in the Provincial, District and Municipal government. Your experience and understanding on issues pertaining to mainstreaming disaster risk reduction and education policy is valuable to inform the outcomes of this study. You are therefore requested to assist by completing the attached questionnaire. Please note that your participation is voluntary and confidential as per attached informed consent form.

Kind regards,

A handwritten signature in black ink, appearing to be 'Lesego Shoroma', written in a cursive style.

Lesego Shoroma
Promoter/Supervisor
African Centre for Disaster Studies
Unit for Environmental Sciences and Management
Faculty of Natural and Agricultural Sciences
North-West University
South Africa

African Centre for Disaster Studies
Unit for Environmental Sciences and Management
Faculty of Natural and Agricultural Sciences
North-West University
Private Bag X6001
Potchefstroom
2520
Tel: +27 (0)18 299 1632
Fax: +27 (0)87 231 5590
E-mail: lesego.shoroma@nwu.ac.za
24 July 2018

INFORMED CONSENT

You are hereby invited to participate in the research project described above. Your participation is completely voluntary and anonymous. This consent letter is for those willing to participate in the research project "Mainstreaming disaster risk reduction in the policy framework of the education sector: the case of Dr. Kenneth Kaunda District Municipality, Republic of South Africa".

The main objective of this study to evaluate the mainstreaming and implementation of the disaster risk reduction policies in the education sector in South Africa, using Dr. Kenneth Kaunda District Municipality education department as a case. **The ethical guidelines followed in this study are provided for by the North-West University Ethical Committee:**

Anonymity and Confidentiality: The information collected in the study will be used anonymously and for the purpose of the study and publication of articles. No names or respondents and names of their organisations will be published. Your response will be grouped with other responses from the sample. **Voluntary Participation:** Your participation in the study is entirely voluntary. You are free to choose if you want to participate or not. If you decide to participate you are requested to complete the questionnaire provided. The questionnaire might take between 20 and 40 minutes to complete.

Thank you in advance for agreeing to participate in the study.

Kind regards,



Lesego Shoroma
Promoter/Supervisor
African Centre for Disaster Studies
Unit for Environmental Sciences and Management
Faculty of Natural and Agricultural Sciences
North-West University
South Africa