



UNIVERSITY OF KWAZULU-NATAL

DISASTER MANAGEMENT: A CASE STUDY OF THE SOUTH AFRICAN COVID-19 POLICY GOVERNANCE RESPONSE

BY

Aobakwe Lionel Phoko

217049504

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Supervisor: Dr Cheryl N. Mohamed Sayeed

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DECLARATION

I, **Aobakwe Lionel Phoko** declare that this study: **Disaster Management: A case study of the South African COVID-19 policy governance response** is my own work. All citations and references used throughout the study have been acknowledged accordingly.

Signed:

Aobakwe Lionel Phoko (217049504) _____ Date: _____

I confirm that the work reported in this project was carried out by the above-named candidate under my supervision.

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ABSTRACT

Recently the number of disasters has been increasing, with South Africa experiencing various kinds of disasters, such as floods, droughts, fires, landslides, and storms. Vulnerable communities are exposed to extreme property and income loss risks, death, disease, homelessness, displacement, misery for many people, and colossal material damage. To prevent and mitigate disasters, international and local communities must formulate disaster risk reduction policies to build sustainability and resilience. Governments and other relevant partners in the disaster management department must develop appropriate policies that effectively provide responsive measures for disaster mitigation, decreasing threats to the vulnerable.

The most recent disaster is the COVID-19 pandemic which required disaster management initiatives to be used by the South African government. This study aims to understand the disaster management of the COVID-19 policy response within South Africa through the Disaster Management Act of 2002. The disaster management act was developed to provide measures and practices to prevent and mitigate the risk of occurrence and the disaster impact. The Act also establishes and facilitates disaster management in national, provincial, and municipal governments.

The preliminary literature of the study outlined and discussed disaster management policies internationally, including United Nations International Strategy for Disaster Reduction in 2000 and the Third UN Global Conference on Disaster Risk Reduction: Sendai Framework 2015-2030. The literature shows South African legislation, like the White Paper on disaster management 1998 and Disaster Management Act 2002. The existence of disaster legislation in South Africa proved to be essential for the COVID-19 Policy response.

This study adopted a qualitative case study approach as a research paradigm. It was conducted as a desktop study using secondary sources of information. Academic journals, government publications, and books were used to support the investigation. Qualitative thematic analysis was used to analyse data from the text thoroughly. A governance theory was used to investigate the practice of good governance, such as the rule of law, effectiveness, efficiency, transparency, and accountability during a disaster. Despite good governance challenges, the study concluded that governance was practiced in response to the COVID-19 pandemic.

LIST OF ABBREVIATIONS

ADA: Austria Development Agency

COGTA: Cooperative Governance and Traditional Affairs

DMA: Disaster Management Act

DMC: Disaster Management Centres

DOH: Department of Health

DRR: Disaster Risk Reduction

HFA: Hyogo Action Framework

IDNR: International Decade for Natural Disaster Reduction

IMF: International Monetary Fund

IMT: Incident Management Trust

ISDR: International Strategy Disaster Reduction

KPA: Key Performance Areas

MDMAF: Municipal Disaster Management Forum

MDMC: Municipal Disaster Management Centre

NCCC: National Coronavirus Command Council

NDMF: National Disaster Management Centre

NICD: National Institute of Communicable Diseases

SAHPRA: South African Health Products Regulatory Authority

UN: United Nations

UNDP: United Nations Development Programme

UNISDR: United Nations Office for Disaster Risk Reduction

WHO: World Health Organization

TABLE OF CONTENTS

DECLARATION.....	1
ACKNOWLEDGEMENTS.....	2
ABSTRACT.....	3
LIST OF ABBREVIATIONS.....	4
LIST OF FIGURES.....	11
LIST OF TABLES.....	12

CHAPTER 1

1.1 INTRODUCTION AND OVERVIEW OF THE STUDY.....	13
1.2 Brief Discussion of the South African Context.....	14
1.3 Research Problem.....	15
1.4 Research Methodology.....	16
1.5 Research Aim and Objectives.....	16
1.6 Conceptual Framework.....	17
1.7 Contribution of the Study.....	17
1.8 The Dissertation Structure.....	18
1.9 Summary.....	18

CHAPTER 2: POLICY AND GOVERNANCE.

2.1 INTRODUCTION.....	19
2.2 Policy.....	19
2.3 Public Policy.....	19
2.4 Policy Actors.....	20

2.5 Policy Process.....	20
2.5.1 Problem Identification/Agenda- Setting.....	21
2.5.2 Policy Formulation.....	22
2.5.3 Decision-Making.....	23
2.5.4 Policy Implementation.....	23
2.5.5 Monitoring and Evaluation.....	24
2.6 Policy Model/stages.....	25
2.6.1 Rational Model.....	25
2.6.2 Incremental Model.....	25
2.6.3 Institutional Model.....	26
2.6.4 Elite Model.....	26
2.6.5 Group Model.....	26
2.7 Concept of Governance.....	27
2.7.1 Defining Governance.....	27
2.7.2 Governance Categories.....	28
2.8 Good Governance.....	32
2.8.1 Core Principles of Good Governance.....	33
2.8.1.1 Accountability.....	33
2.8.1.2 Transparency.....	35
2.8.1.3 The Rule of Law.....	35
2.9 Governance and Disaster.....	36
2.9.1 Community Participation.....	36
2.9.2 Policy and Legislation.....	37
2.9.3 Community Empowerment.....	37

2.9.4 Prevention.....	37
2.9.5 Risk Assessment.....	38
2.10 Summary.....	38

CHAPTER 3: DISASTER MANAGEMENT

3.1 Introduction.....	39
3.2 Contextualizing Disaster Management.....	39
3.2.1 Hazards.....	41
3.2.2 Vulnerability.....	42
3.2.2.1 Physical Vulnerability.....	43
3.2.2.2 Social Vulnerability.....	43
3.2.2.3 Economic Vulnerability.....	43
3.2.2.4 Environmental Vulnerability.....	44
3.2.3 Capacity.....	44
3.2.3.1 Institutional Capacity.....	45
3.2.3.2 Organizational Capacity.....	45
3.2.3.3 Individual Capacity.....	46
3.2.3.4 Physical and Socio-Economic Capacity.....	46
3.3 Disaster Management Cycle.....	47
3.4 Disaster Governance.....	50
3.5 Disaster Management International Strategies.....	51
3.5.1 International Decade for Natural Disaster Reduction (IDNDR).....	51
3.5.2 UN International Strategy for Disaster Reduction in 2000 (UNISDR)	52
3.5.3 Hyogo Action Framework (HFA) 2005-2015.....	52

3.5.4 The Third UN Global Conference on Disaster Risk Reduction: Sendai Framework 2015-2030.....	53
3.5.5 Sendai Framework.....	53
3.6 Challenges to Disaster Management.....	54
3.6.1 Poverty.....	54
3.6.2 Finances.....	55
3.6.3 Government gaps.....	55
3.7 Summary.....	55

CHAPTER 4: RESEARCH AND METHODOLOGY

4.1 INTRODUCTION.....	56
4.2 Research Objectives and Questions.....	56
4.3 Defining the term research.....	56
4.4 Research Approaches.....	58
4.4.1 Grounded Theory.....	58
4.4.2 Ethnographic.....	58
4.4.3 Case Study Approach.....	58
4.5 Research Methodology.....	58
4.6 Quantitative Methodology.....	59
4.7 Qualitative Methodology.....	61
4.8 Mixed Methods.....	63
4.9 Data Collection Methods.....	63
4.9.1 Primary Data.....	64
4.9.2 Secondary Data.....	64
4.10 Approach adopted for this investigation.....	65

4.11 Data Analysis.....	65
4.11.1 Thematic Analysis.....	66
4.12 Data Quality.....	66
4.13. Summary.....	67

CHAPTER 5: FINDINGS AND PRESENTATION.

5.1 INTRODUCTION.....	68
5.2 The South African Legal Framework for Disaster Management.....	68
5.2.1 The Republic of South Africa Constitution of 1996.....	69
5.2.2 Green Paper on Disaster Management 1998.....	70
5.2.3 White Paper on Disaster Management 1999.....	70
5.2.4 Disaster Management Act of 2002.....	71
5.2.4.1 National Disaster Management Centre.....	71
5.2.4.2 Provincial Disaster Management Centre.....	71
5.2.4.3 Municipal Disaster Management Centre.....	72
5.2.5 National Disaster Management Framework of 2005 (NDMF).....	72
5.3 Declaration of COVID-19.....	74
5.4 Case Study: South African COVID-19 Response.....	76
5.4.2 National COVID-19 Command and Control Council (NCCC).....	78
5.4.3 Incident Management Team.....	81
5.4.4 Vaccinations.....	83
5.4.4.1 Sisonke Vaccine Program.....	83
5.4.4.2 Vaccine acceleration.....	85
5.4.5 Transitional Measures.....	85

5.5 E-Government.....	86
5.6 Accessibility.....	88
5.7 Accountability.....	89
5.7.1 Monitoring public debt.....	90
5.8 Transparency and Openness.....	91
5.9 Efficiency and Effectiveness.....	92
5.10 Capacity.....	93
5.11 Summary.....	94

CHAPTER 6: RECOMMENDATIONS AND CONCLUSION.

6.1 INTRODUCTION.....	95
6.2 Questions Addressed.....	95
6.3 Recommendations.....	97
6.4 Limitations of the study.....	98
7. Reference List.....	100

LIST OF FIGURES

Figure 1.1: Policy Cycle.....	21
Figure 3.1: Disaster Vulnerability and Hazard.....	40
Figure 3.2: Natural Disaster Categorization.....	41
Figure 3.3: Three levels of capacity.....	45
Figure 3.4: Disaster Management Cycle.....	48
Figure 3.5: Summary of the Evolution of Disaster Risk Management.....	54
Figure 4.1: Sequential Exploratory Strategy Characteristic.....	63
Figure 5.1: Hazards in South Africa.....	69
Figure 5.2: COVID-19 Stats.....	77
Figure 5.3: Summary of Risk-Adjusted Strategy.....	81
Figure 5.4: Distribution of COVID-19 stimulus package.....	89
Figure 5.5: Lockdown Effectiveness.....	93
Figure 5.6: Cape Town International Convention Centre Intermediate care bed facility layout.....	94

LIST OF TABLES

Table 1: Quantitative Method.....	60
Table 2: Methodologies: Quantitative and Qualitative.....	62
Table 3: KPA and Enablers.....	74
Table 4: Accessible Information.....	87

CHAPTER 1: INTRODUCTION AND OVERVIEW OF THE STUDY

Over the past five decades, natural disasters have increased due to climate change and extreme weather conditions, affecting developing countries (United Nations, 2021:1). Disasters pose significant challenges to societies and people with severe consequences in less developed nations (Austin and McKinney, 2016:355). Despite their commitment to improving disaster management, poor countries continue to remain behind (UNDRR, 2021:1). Disasters affect the socioeconomic balance of a country with damage to infrastructure, the environment, as well as other services (Twigg, 2015:1). The United Nations Report in 2022 outlined that the most significant contributors to the escalating numbers of disasters globally are human activities and behaviours (United Nations, 2022:2). Over the past few years, 350-500 medium to large scale disasters have occurred yearly (UNDRR, 2022). Masood, Majid, Sohail, Azia, and Raza (2015:247) reported that in Pakistan, Sindh province, there was a devastating heat wave that claimed more than 700 lives by mid-year and over 3500 in total by the end of the year. United Nations (2015:1) reported that “abnormally strong El Nino caused heavy rainfall, which claimed over 450 lives and left 250000 people homeless in Malawi, Mozambique, and Zimbabwe”. Disasters do not only affect those based at the location they occurred, but they are a global problem that affects multiple regions simultaneously (United Nations, 2015:1). UN Deputy Secretary-General Amina Mohammed, in her UN speech in New York, advocated for investing in disaster prevention to avoid a spiral of self-destruction (United Nations, 2022).

The lack of disaster management strategies compelled the international and local communities to formulate and implement policies. Collective efforts were made to mitigate property loss and life, economic and social disruptions occurring due to the disruptive nature of disasters. The following years led to reactive approaches to disasters and a new approach that assisted disaster management bodies with preventive and proactive measures (Gaillard, 2007:27; Shaw, 2020:414). The major goals:

- Improve every nation’s capacity to reduce disaster impact.
- Build suitable strategies and guidelines, considering the social and economic context.
- Support engineering and scientific efforts.
- Gather new and relevant data to trace natural disasters.
- Establish monitoring features for prediction.
- Maintain the efficiency of these programs.

1.2 A Brief Discussion of the South African Context

South Africa has had its share of disasters (fires, floods, droughts) (Grobler, 2003:13; Loretto and Tegegn, 1997:180 and Givetash, 2022). Sgqolana (2021) reported that “more than two million hectares of grazing land was burnt in fires across South Africa, with two firemen losing their lives”. Urban migration has increased the vulnerability to disasters, with informal settlements being established in environmentally sensitive areas (Weimann and Oni, 2019). Between the 21st and 22nd of May 2022, Ethekeweni faced heavy floods that claimed lives and displaced many (South African Government, 2022). Magidimisha-Chipungu (2022) argued that communities in disaster-vulnerable areas are bound to experience disasters. Therefore, communities should be equipped with disaster risk reduction strategies.

Post-Apartheid, South Africa sought to develop and initiate disaster management early post-international disaster reduction strategies such as “United Nations International Strategy for Disaster Reduction in 2000 and the pre-Hyogo Action Framework in 2005” (Mamabolo and Sebola, 2021:132). The Disaster Management Act. No.57 of 2002 seeks to “provide a policy to mitigate and prevent disaster”. The Act highlights the importance of disaster preparedness and response and post-disaster recovery. All government levels within South Africa are provided with guidelines for disaster response. Pre-existing legislation, such as the Public Finance Management Act of 1999, has been incorporated to enable the availability of funds in case of disaster (Disaster Management Act, 2002).

The National Disaster Management Framework of 2005 (NDMF) was introduced to implement the Hyogo Framework for Action (NDMF, 2005:1). The South African government has shown massive progress concerning the HFA 2005 to reduce disaster losses (Government Communications, 2016). The NDMF exists “to promote consistency and appropriate policy on disaster management” (NDMF, 2005:1). The framework informs the development of provincial and municipal disaster management plans, which then guides all spheres of government (NDMF, 2005:2). The aim is to strengthen communities against disaster vulnerability.

One aspect that cannot be omitted is the importance of good governance in the success of disaster management (Sigmund, Radujkovic, and Atalic, 2022:1-3). A governance model enables countries to implement a disaster management strategy to manage impacts (Meerpoel, 2015). Lowe and Sako (2002:37) stated that “good governance practices a system of values, policies, and institutions by which a society manages its economic, political, and social affairs

through interaction within and among the state, civil society, and private sector”. COGTA (2014:5) emphasizes the importance of good governance as the heart of the effective functioning of municipalities. It is crucial to ensure that the ruling government is efficient and capable of providing for their citizen’s essential services in case of disaster (Plowden and Jenkins, 2006:8). Disaster governance is made of actors and practices that are designed to minimize impacts associated with disasters (Tierney, 2012:344).

Government should design and implement disaster risk policies that are context-sensitive and relevant to promote increased capacity. Disaster risk reduction has proven to be a challenge for third-world countries as they find themselves incapable of responding effectively to disasters. Musyoki, Thifhulufhelwi, and Murungweni (2016:166) argued that disaster response failures are linked to poor governance structures. Third-world countries lack the resources and the political will to develop adequate disaster management policies (UNDP, 2015). UNDP (2015) highlights that since the international decade for disaster reduction, more than 120 countries have provided policies and legislation to enhance disaster risk reduction; however, they have faced challenges in achieving success.

1.3 Research Problem

As previously shown, disasters continue to occur, and comprehensive disaster management strategies are required. The absence of adequate capacity to implement disaster management policies puts the government in a vulnerable situation (Masood et al., 2015:248; Bello, Bustamante, and Pizarro, 2021:27-38). The COVID-19 Pandemic demanded responses from the South African government, which needed to be adequate to minimize the spread of the virus. To respond effectively, good governance practices were necessary for forming policy guidelines (Kunicova, 2020:3). Good Governance practices include effectiveness and efficiency, transparency and accountability, participation, protection of human rights, and coordination (Cloete, 2000). The response was adopted quickly through evidence-based prevention methods such as social distancing, handwashing, and the wearing of masks. The response has seen some challenges, mainly due to the present weak health systems and the relaxed state of the economy (Moonasar, Pillay, Leonard, et al., 2021:3). Considering the history of South Africa and epidemics, lessons can be learned where it concerns community engagement, risk communication, capacity building, and cost-estimation (Juneau, Pueyo, Bell, Gee, Collazzo, and Potvin, 2022:9). The public and private sectors are encouraged to co-construct solutions to address the COVID-19 Pandemic and, most importantly, pay attention

to the local context (Kunicova, 2020:5). States should focus more on a social science approach and decrease approaching the pandemic from a biomedical side (Anoko, Barry, Boiro, Diallo, Diallo, Belizaire, Keita, Djingarey, N'da, Yoti, Fall, Talisuna, 2020:4). Munasinghe, O'Reilly, and Cameron (2022:674) argued that policies are essential as they function to guide the government's response to a disaster. Given the importance of governance, this study seeks to investigate the South African COVID-19 policy response.

1.4 Research Methodology

The study applied a qualitative research approach, adopting the case study design as a strategy. "A case study research method enables a researcher to examine the data within a specific context closely" (Zainal, 2007:1). A case study approach can be described as an interpretive design seeking to investigate a subject in-depth (Woods and Calanzaro, 1980; Gustafsson, 2017). Using a case study is advantageous as it is versatile and can be used in other faculties (Yin, 2014:1). Furthermore, the study reviewed secondary data and conducted a qualitative thematic analysis which will be further discussed.

1.5 Research Aims and Objectives

The study examines disaster management policy response within South Africa through the Disaster Management Act during the COVID-19 Pandemic. To achieve this aim, the research possesses the following objectives:

- To investigate the legislative provisions for disaster management in South Africa.
- To thoroughly understand the policy response to COVID-19.
- To determine policy governance arrangements for COVID-19.
- To identify challenges experienced during policy implementation.
- To provide policy arrangements to enhance the effectiveness of the COVID-19 policy response.

Research Questions

To achieve these objectives, the questions below were considered by the researcher:

- What are the legislative provisions for disaster management in South Africa?
- What was the policy response to COVID-19?
- What were policy governance arrangements for COVID-19?
- What challenges were experienced, and how could policy governance arrangements be changed to enhance their effectiveness in the future?

1.6 Conceptual Framework

According to Glanz, Rimer, and Vaswanath (2008:14) and Kivunga (2018:45), “a theory consists of interrelated constructs, definitions, and propositions that intend to explain a phenomenon”. Sambrook (2011:222) identifies three critical aspects of a theory, (i) theory is an explanation, (ii) intends to explain, and (iii) implies phenomena separate from and independent of the theory. By these definitions, Stewart and Klein (2016:615) assert that a theory extensively describes some aspects supported by evidence.

For the research, a good governance theory is applied to examine the South African COVID-19 policy response. In general terms, good governance theory argues that, in case of a disaster, governments need to set up various coordination mechanisms at the of government to facilitate an effective policy response (Kunicova, 2020:4). It provides a lens for looking at governance features such as public participation, accountability and transparency, capacity, human rights, fairness, and efficiency.

1.7 Contribution of the Study

This study is essential in understanding the governance perspective of the Disaster Management Act as a COVID-19 policy response in South Africa. As disasters continue, disaster management strategies are required to adapt to change to reduce disaster impact. Governance has been a standard the World Health Organization holds to respond effectively to the pandemic. Investigating the governance perspective of the Disaster Management Act assists with outlining and understanding challenges encountered by the government. The study aims to contribute to academic research regarding the role of the Disaster Management Act from a governance perspective. The study seeks to add information to the policy responses' progress

and describe ways that enable the government to increase its capacity to carry out policy effectively.

1.8 The Dissertation Structure

- **Chapter 1 – Introduction and Background:** This chapter provides a detailed introduction and study overview. It discusses the history of disaster management response and mitigation. It provides a brief discussion of disaster management within the South African context. It then discusses the research problem, aims, objectives, and questions. It further outlines and discusses the contribution of the study and chapter summary.
- **Chapter 2 – Policy and Governance:** This chapter discusses the conceptual framework. It discusses the public policy process and introduces the governance concept.
- **Chapter 3 – Disaster Management:** This chapter seeks to provide the relevant literature to the study and provide it in themed sections. It will begin by clarifying the disaster management concept and international disaster management policies.
- **Chapter 4 – Research Methodology:** This chapter presents the research methods, approaches, data collection, and data analysis adopted in this study.
- **Chapter 5 – Case Study: South Africa:** This chapter provides research results, reported results, and data presented.
- **Chapter 6 – Conclusion:** This chapter offers recommendations or suggestions for future research. It further summarizes what has been discussed in the previous five chapters and proposes some guidance to the challenges of the COVID-19 policy.

1.9 Summary

Chapter One presented a general introduction and background of the study, which focused on disaster management programs. It also provided the key objectives and questions of this study. The chapter then briefly described the methodology and theoretical framework selected in this study, as well as the study's contribution. The following chapter will focus on public policy and governance, providing different definitions and discussions by various scholars.

CHAPTER 2: POLICY AND GOVERNANCE

2.1 INTRODUCTION

Chapter One presented the introduction and background of the study, key objectives, and questions. It then briefly discussed the suitable research methodology for the study. It further outlined the research problem and contributions of the study. This chapter intends to investigate public policy and governance. It is set to define public policy and governance, acknowledge the different definitions from social sciences scholars, and provide a broad understanding of the concepts. The different levels of public policy will be discussed.

2.2 Policy

According to Hanekom (1987:7) and Cerna (2013:4), “Policy is indicative of a goal, specific purpose and a program of actions that have been decided upon”. “A policy is what a government chooses to address a problem or how the courses of action for achieving the appropriate goals are determined” (Skopje, 2007:8). Skopje (2007) argues that policy is an act of the government that alters its audience. Cloete, De Coning, and Wissink (2000:11) and Eldridge, Milner, and Williams (2020:5) argue that a policy acts as a declaration and implementation of intent.

2.3 Public Policy

Anderson (1997:10) states that public policy is “a deliberate and intentional course of action pursued by the government in addressing a problem affecting the public”. It consists of government activities as they influence the lives of citizens (Hanekom, 1987). It is a course of action purposefully taken by an actor or more to address an issue brought forward (Anderson, 1984:10) and (Howlett and Ramesh, 1995:5). This highlights the role played by critical actors in addressing issues. For a government to address a public issue, factors such as an excellent working public policy definition, reason, and study of decisions and actions to address the matter are considered (Cochran and Malone, 2014:3). Howlett, Ramesh, and Perl (2003), argued that a public policy should be more than a governmental decision and involve decisions and actions of other actors, such as the public. The decisions may be driven by different cultures, ideologies, needs of political actors, religions, and interests (Gomes and Almeida, 2018:444).

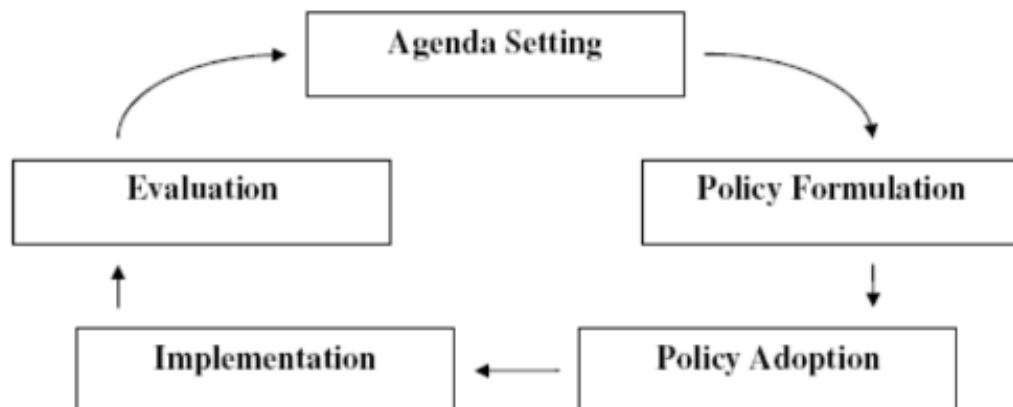
2.4 Policy Actors

A group of decision-makers is required to formulate a policy as it is not based on a single decision but involves a chain of suggestions and decisions (Hill, 1997:7; Eldridge et al., 2020:15). Hollister (2007:3) identifies three sets of actors (i) Government departments, (ii) interest group and (iii) Consumers, citizens, and taxpayers. Often policy actors do not always agree with each other. Still, policymakers will require two or more groups to support the evolving or compromise policy (Sabitier, 2007:5). The concept of policy proves that different actors shape public policies at all stages (Howlett and Ramesh, 1995). Policy actors can establish new relationships according to their common interests to push an agenda in the trajectory of public policy stages (Gomes and Almeida, 2018:444). Ijeoma (2008:106) argued that policy actors exist to ensure resources are utilized purposefully.

2.5 Policy Process

The public policy process comprises five stages (Kingdon, 1995; Barkenbus, 1998:1): Problem identification/Agenda setting, Policy formulation, Decision making, Implementation, and Monitoring and Evaluation. Different scholars refer to these stages as the heuristic stages model, sequential model, or linear model (Jones, 1997; Smith and Larimer, 2009). According to Nisa, Mustafa, Yaseen, Arslan, and Imran (2021:1313), this process is used for public policy analysis, which provides a design to examine public policies. Muller (2015:288), “The sequential representation of policies should not be used mechanically but should be represented as a continuous flow of decisions and procedures, for which it is necessary to find the meaning”. This model presents the process to follow during policymaking, but policymakers may simultaneously be involved in multiple processes.

FIGURE 1.1: Policy Cycle



Source: Knill and Tosun (2008:10)

Figure 1.1 shows that each policy is preceded by a societal problem and placed on the agenda. The following step after problem identification is formulating a policy and adopting the most suitable one. The adopted policy will be implemented, and the results will be evaluated.

2.5.1 Problem Identification/Agenda Setting

Nisa et al. (2021:1314) refer to the first stage of a public policy process as the logical starting point for problems to be recognized and solutions to be found that lead to agenda-setting. Rushefsky (1990:3) outlines the two aspects of problem identification: perceptions and definition. Emergence involves a collective trigger that is identifiable, and a solution is sought (Jones, 1970:53). Perception involves registering or accepting an event that affects people or a community (Kingdon, 1995:90). People identify an issue collectively and define it as a problem for quick recognition from the government (Kingdon, 1965). It should be noted that not all social problems are fit to be subject to public policy (Knoepfel, Varone, Hill, and Larrue, 2011:28). The interpretations of those events are what provide meaning and clarity for others to see it as fit for policy intervention (Rushefsky, 1990:4). South Africa has trade unions such as the South African Democratic Teachers Union (SADTU) and the Democratic Nursing Organization of South Africa (DENOSA). Recently, these public unions demanded a 10% increase due to “low salaries” (Mkentane, 2022).

After the problem has been identified, goals and steps to achieve them are set. The government will now delegate experts and officials to explore the foundation of the problems and make policy recommendations. This is a process where the “policy issue is structured regarding

potential strategies that shape the development of a policy in the subsequent stages of a policy cycle” (Nisa et al., 2021:1315). Policy officials consider various requests from the public and other policy actors (Knoepfel et al., 2011:29). This stage provides policymakers with an option to choose a cost-effective policy.

Cobb, Ross, and Ross (1976:127) outline three basic policy initiation models:

- Outside initiative model (public support for approval)
- Mobilization model (government initiatives for successful implementation)
- Inside initiation model (political influencers present proposals)

2.5.2 Policy Formulation

According to Cloete, De Coning, and Wissink (2000:116), “Policy formulation exists to plan policy aims and objectives, prepare for events, cost-benefit analysis of policy alternatives, and examine the best approaches to achieve the objectives”. Policy proposals are developed to resolve issues and improve conditions (Dye, 2013; Barkenbus, 1998). Howlett and Ramesh (2003) mention that governments create a course of action during this stage to provide a solution to the problem identified. Different actors from civil society organizations, labor organizations, and other interest groups work with the government to suggest solutions that address specific problems (Altman and Petkus, 1994:38). What questions are addressed: What are the aims and objectives? What is the problem being addressed? What are the available options to address the issue? What other alternatives are there? What are the cost and benefits of each option? What are the possible adverse outcomes of each option? (Cochran and Malone, 1999:46).

Policy contents are outlined in this stage, aiming to highlight the problems that must be addressed (Nhemachena and Keruaihe, 2015). The policy contents are essential as they express the policy's intention and what it stands for (Magoro, 2010:60). Policy content should specify how to implement a policy and help decision-makers draft the best policy. Molobela (2019:214) argues that the choice of objectives may impact the commitment of the implementers, and without clear principles and ideas, implementing the policy would be a challenging task. Policies are not pursued based on only political agendas, but evidence should be presented, motivating policy adoption (Kingdon, 1995). Policy networks play a huge role in policy formulation as a joint effort between public and private actors is essential (Peterson,

2003). Issues are taken, suitable solutions are brought and considered, and objectives are set with estimation (Knill and Tosun, 2008:15).

2.5.3 Decision-Making

Decision-making/Adoption is “a stage where government officials decide to favour an approach addressing the problem” (NCCHPP, 2013:3). Winterveldt (2013:14057) argues that its primary purpose is to facilitate decision-makers to construct a more suitable choice amongst other alternatives. This stage highlights the readiness of the government to adopt new policies (Dye, 1992:346). According to Rushefsky (1990:9) and Anderson (2003:126), this occurs after all proposals are considered; the final proposal would then be adopted as policy by relevant parties, heads of departments, and committees. Some decisions may still need to be redefined to the point where they are found fit to address the issue (Kingdon, 1995). Decision makers compare and measure the alternative policy’s benefits during selection.

2.5.4 Policy Implementation

According to (Nisa et al., 2021:1317), this stage is responsible for implementation, safeguarding the availability of sufficient resources, and ensuring that policy decisions are carried out. The implementation process is completed by decisions and actions seeking to address an issue (output) (Knoepfel et al., 2011:137). The process involves negotiation between the public and authorities before completing any implementation and identifies the policy's intended and unintended outputs. Then an approach is chosen, and policy alternatives are considered. There are conditions to successful public policy implementation: a sound theory must link the policy recipients with objectives, and clear goals must structure the implementation process (Hill and Hupe, 2002).

Implementation parameters need to be established, as they affect the outcome of the policy (NCCHPP, 2013:3). Sabatier and Mazamania (2005) outline policy implementation key factors: type and complexity of the issue addressed, size of the expected outcomes and policy beneficiaries, financial and human resources available for implementation and the administrative structures, and regulations that will enfore the policy implementation. Ingram and Mann (1980) argued that this is the most difficult stage in the policy cycle, as it is challenging to attain desired objectives. The government brings experts to implement the selected policy to achieve the goals outlined. This can involve internal and external experts.

Implementation occurs in two ways; vertical and horizontal implementation (Kingdon, 1995). Vertical implementation is focused on the top government interacting with various subnational

departments. Horizontal implementation involves the executive branch working solely with a few actors, and implementation can proceed smoothly, which is different from vertical implementation, which can be time-consuming.

The policy implementation strategy must be sensitive to local needs (Gerston, 2004:98). Applications of foreign policy contexts can make it difficult for policy implementers (Satimburwa, 2015). When individuals do not influence policy planning, they feel powerless, resulting in non-implementing policies (Singh, Dwivedi, Kahlon, Sawhney, Alalwan, Rana, 2020:315). Satimburwa (2015) argues that foreign policies can be context insensitive. Countries are unique, and the local context should determine their policy needs. Approaches borrowed from the United States might not fit the South African context as they operate under different circumstances and have different historical backgrounds, economies, etc. Policymakers should check out contexts to see the differences, why that specific policy failed or worked, and what would make it applicable in the local context. Often borrowing policies result in irrelevant policies that are unresponsive to the home context (Hudson, Mannix, Gerdes, Kottemann, and Cooley, 2019).

2.5.5 Monitoring and Evaluation

Evaluation can be defined as “determining the fulfillment of objectives” (Kusek and Rist, 2004:12). The purpose of an evaluation stage is to ensure accountability of the project, observe challenges and successes, and provide recommendations for the following projects (Singh et al., 2020:316). Kusek and Rist (2004:31) evaluation provides information to government officials to manage and guide resources and intervention. In addition, it should produce evidence-based, valuable results to give the stakeholders lessons (Campilan, 1999:41). After the policy is implemented, stakeholders (policymakers, policy beneficiaries, and implementers) seek to know the changes made by the policy. "An evaluation process seeks to assess the impact, effectiveness systematically and contribution on the project" (Singh et al., 2020:315). Evaluation can either appear at the last stage or mid-term. Mid-term evaluation helps implementers bring correction wherever there are faults during the process. Post-project evaluation assists in acquiring information for the formulation of other projects. The monitoring and evaluation approaches can offer details on guiding local decision-making, provide evidence on the implementation effectiveness and help emerging implementation issues.

2.6 Policy Models

The policy process is generally initiated by political influence, followed by the production of more political decisions to be proposed (Skopje, 2007:10; Grindle and Thomas, 1989:213). Several theories/models in public policy describe the policy process. These models include Rational, Incremental, Elite, Classical, and Group Theories. These models seek not to compete but rather complement and assist with understanding the characteristics of public policy (Dye, 2005:12). Various assumptions are made concerning the role of actors such as interest groups, government department, the public, and politicians and their rationality (Knill and Tosun, 2008:5).

2.6.1 Rational model

Rationality refers to achieving outlined goals within specific limitations depending on conditions (Simon, 1976). It is derived from the idea that decision-makers have rational comprehension, implying that they have a range of policy options to choose from (Hanekom, 1987:8). The rational model suggests that policies that can be acquired with lower expenses and maximum benefits should be prioritized (Mustafa, Yaseen, Arslan and Imran, 2021:1309). Decision-makers should compare the expected results of a policy and choose one that is more prone to offer more benefits (Hahn, 1987:222). Social scholars have criticized rationalism, arguing that it treats decision-making as an intellectual process and less of a political one. (Hanekom, 1987) claims that it causes organizations to function as computers to solve problems. The garbage can model was derived to respond to the “linear model of decision-making” suggested by rationalism and favor decision-making to utilize a less rational form (Peters, 2002:8).

2.6.2 Incremental model

Incrementalism is antirationalistic as it seeks to provide a prescriptive model and a better description of reality (Hahn, 1987: 223). This model considers policy as adding to the previous policy with minor improvements (Nisa et al., 2021: 1309). The existing programs, expenditures, and policies are considered foundations, and policy officials focus on new programs and modifications of the current program (Dye, 2013: 21). Hahn (1987: 222-22) and Lindblom (1959:79) observed that the distance towards goals is longer than moving away from issues. Underwhelming alternatives are considered, long-term consequences are ignored, analysis is conducted to find an immediate solution, and more solutions are provided as the policy proceeds.

2.6.3 Institutional model

It is often referred to as the classical method. The attention is on governmental functions, departments, organizations, and duties (Hahn, 1987:222). Interest groups are made up of congress, courts, the legislature, bureaucrats, states, municipalities, the presidency, etc. All these groups should be represented in the policy process. An example of an institutional policy-making structure is the United States Constitution, the supreme (Article VI), which divides the power with states by separation of balances, power, and checks among the three arms of government, and federalism, which divides power with states. Dye (2013:18) outlines distinctive features of public policy by government institutions; the government lends legitimacy to policies (other policies from other organizations in society may exist; however, government policies possess legal authority and universality). The Government monopolizes coercion (only government can command loyalty from all citizens and hold those who oppose accountable).

2.6.4 Elite Model

This model recognizes public policy as a reflection of the ruling elite's interests. Public policy may be perceived as the demand of ordinary citizens, but it remains a myth (Dye, 2013). The governing elites are more educated about the policy-making processes, shaping and driving public opinions to follow their ideas. Policies are top-down and not bottom-up, addressing the demands of the elites. Although elections are conducted in a democratic society are often referred to “as manipulating public opinion rather than being influenced by it” (Hahn, 1987: 224). Dye (2013: 24) summarizes the elite model: the minority dominates the governed, the governed are slow to ruling positions, and elites collude to preserve the systems.

2.6.5 Group Model

Truman (1951) and Latham (1965) mentioned that policies result from equilibrium in opposing views, which is done by the relative strength of each group. It is often used interchangeably with “pluralism”. There is a form of cooperation, compromise, and collaboration among individuals as they find common interests to press their demands on the government. These groups are called “interest groups,” influencing the government’s decisions (Baroni, Chalmers, Carroll, and Marquee, 2014). A pluralist model is necessary to emphasize the importance of diversity, potential conflict, and compromise (Dye, 2013; Hahn, 1987: 222). A group model establishes reconciliations between the government and the public, forms a power balance, proposes compromises, and enforces compromises (Dye, 2013:22).

Dye (2013: 22), A group model acts as (i) a mediator between the government and the public by establishing rules of the game in the group struggle, (ii) arranging compromises and balancing interests, (iii) enacting compromises in the form of public policy and (iv) enforcing these compromises. In summary, a group model is a marketplace where political parties, interest groups, and individuals meet to trade. It is considered a “frictionless transition” even without all interests getting admission as it offers equal access to the political arena (Thomas, 1993).

2.7 CONCEPT OF GOVERNANCE

Different scholars have formulated governance/good governance definitions which feature a common foundation of a democratic society, accountability, and transparency. The opposite action is bad governance which has been extensively disregarded as a good form of governance leading to failures in communities, focusing more on the failures of third-world countries struggling to consolidate their democracy (Schmitz, 2007). International organizations such as the International Monetary Fund, World Bank, and first-world countries have prioritized ensuring good governance by providing financial loans and aid (Kaufmann, 2009). Values that enhance functional governance should be upheld by a government (Nzimakwe, 2005:12). These values should prevent government officials from engaging in bad governance tactics and committing maladministration.

2.7.1 Defining Governance

Government and governance are often interchangeably used, but there are differences identified. The two concepts share similar objectives and are not synonymous (Asaduzzaman and Virtanen (2016). According to Asaduzzaman and Virtanen (2016:2), “the existence of formal and legal authority and policing power to execute activities is what sets a government”. Governance observes the role of those who may or may not have formal authority in formulating and implementing policies. The government structures are not pointed out by governance; however, governance points out formulated policies and their efficiency and effectiveness (Auriacombe, 1999:135). Governance aims to “enhance effectiveness and efficiency in the administration of an established government” (United Nations, 2016:4). A government is one of the features of governance, which involves decision-making and process where decisions are implemented (or not implemented)” (UNESCAP, 2002:1).

The term "governance" was first used in 1989. Former President of the World Bank, Mr. Conable Barber, referred to "an effective public service by those in power, a consistent justice structure, and a transparent government as governance" (World Bank, 1989: xii). Governance is "the efficient execution of public concerns by lawful means to improve standards required by individuals or groups" (Charlick, 1992:3). Sedarmayanti (2004:3), "Governance is the exercise of government administration to manage a country's affairs". Governance provides a platform for the governed to manage resources and respond to their needs (Fitzgerald, Drasgow, Hulin, Gelfand, and Magley, 1997:491). Cloete (1995:34) argues that integrating public roles and civil society institutions defines governance. The South African Constitution of 1996 supports the abovementioned definitions: "All organs and spheres of government must maintain transparency, accountability, and effectiveness for the benefit of the Republic". A democratic government allows for the achievement of governance to develop its society through effective policies Cloete (2000:6).

According to Singh, Ansari, and Singh (2009:1109), governance is "a quality of governing and the process of collaborating on decisions with or without the government's intervention". Governance consists of various institutions and complex processes that permit citizens to be heard and exercise their legal rights (Wessels and Pauw, 1999:97). Promoting public participation in government is essential when establishing governance. Governance exists to hold the government accountable and enforce restrictions (Kruiter, 1996:4). Singh et al. (2009:1110) further elaborate that governance policies governments as it aims to maintain order, respond to problems appropriately, and ensure legitimacy.

2.7.2 Governance categories

Nzimakwe (2005:23) provides categories of governance. Pierre (2000:55), "Governance signifies a change in the meaning of government, focusing on the extent of public intervention and the use of markets to deliver 'public' services". An example of a common category of governance is 'corporate governance,' "which is a structure of rules and practices to manage a company" (Chibarinya, 2014:5). It summarizes how companies are led (Ndzimakwe, 2005:13).

1. **Governance as good governance:** Pierre (2000:57), good governance consists of three characteristics: administrative, political, and systemic. Administrative refers to an

effective, accountable, and transparent public service. Political refers to a state being legitimate and having authority within its borders taken from a democratic mandate. The systemic use of governance is broader than government covering the 'distribution of internal and external political and economic power. Good governance has been a challenge in third-world countries, but the world's financial institutions have sought to invest in fostering good governance. With the COVID-19 surge leading to economic difficulties, governments' ability to effectively respond and provide public goods, generate financial means, and create jobs and growth has been crucial. Countries with strong institutions have been more successful in reducing poverty, decreasing unemployment, fighting against COVID-19, delivering valuable services, and earning citizens' confidence. "The World Bank's Governance Global Practice supports client countries in building capable, efficient, open, inclusive and accountable institutions" (World Bank, 2020). "The IDA policy commitment seeks to strengthen institutions and improve governance especially critical for the world's most vulnerable countries, which the COVID-19 pandemic will likely hit the hardest" (World Bank, 2020).

2. **International interdependence:** United Nations (2014:vii) recommends five principles to follow when navigating through global governance; (i) common but differentiated responsibilities and respective capacities: countries recognize their differences financially, historically, and geographically, and the ability to contribute to addressing common issues. This view acknowledges the different capabilities of different countries in the international community.
 - (ii) **Subsidiarity:** Issues ought to be addressed at the lowest level capable of addressing them. Besides the international community, there are national/regional organizations. Therefore, problems should be handled efficiently locally, decreasing issues brought up on the international stage. The principle highlights the importance of regional cooperation in having the capacity to address issues.
 - (iii) **Inclusiveness, transparency, accountability:** Global governance institutions need to be representative of and accountable to the entire global community, while decision-making procedures need to be democratic, inclusive, and transparent. Robust governance implies mutual accountability, verified by transparent and credible mechanisms and processes to fulfill agreed commitments and duties.
 - (iv) **Coherence:** Definitions of global rules and processes need to rest on comprehensive approaches, including assessing possible trade-offs so that actions in different areas will not undermine or disrupt one another but instead be mutually reinforcing. Enhanced

coherence is also needed between the international and national spheres of policymaking. This also requires improved coordination among various stakeholders and enhanced information sharing.

(v) Responsible sovereignty: This principle recognizes that policy cooperation is the best way to achieve national interests in the global public domain. It also requires Governments and States to be entirely respectful of the sovereignty of other nations to fulfill agreed policy outcomes.

Nzimakwe (2005:25) argues that international interdependencies erode the state's authority. Four processes limit the autonomy of nation-states: international law and financial transactions; internationalization of production and financial transactions; international organizations; hegemonic powers; and power blocs.

3. **New Public Management:** Since the eruption of NPM in the 1980s and the concept of governance later, the two approaches have emerged as alternatives to classical bureaucratic government (Nzimakwe, 2005:24). In many ways, these two concepts have taken ideas from each other. Klijn (2012:2), in many ways, can be positioned as opposites with which governments can tackle the increasing complexity of policy processes, implementation, and service delivery. New public management has specific features: an aim of improving the effectiveness and efficiency of government performance, the use of markets or semi-market mechanisms, or at least increasing competition in service provision and realizing public policy, ideas, and techniques that originate from the private sector, the use of performance indicators or other mechanisms to specify the desired output of the privatized or autonomic part of the government or the service that has been contracted out (Hood 1991; Lane, 2000: in Klijn, 2012:4). The new public management focuses on getting the goals right and after that, allowing implementation to separate bodies; governance is very much preoccupied with combining different perceptions on goals and tries to improve inter-organizational cooperation” (Klijn, 2012:3). NPM is relevant to this discussion of governance because the steering is central to the analysis of public management and steering is a synonym for governance (Nzimakwe, 2005).

4. **Socio-cybernetics system:** governance is the pattern or structure that emerges in a socio-political system as a ‘common’ result or outcome of the interacting intervention efforts of all involved actors (Kooiman, 1993). This pattern cannot be reduced to one

actor or group of actors. Nzimakwe (2005: 26) argues that in this way, this “approach highlights the limits to governing by a central actor, claiming there is no longer a single sovereign authority”. The central government may exist to pass laws, but it interacts with the local government and other stakeholders. “There is a multiplicity of actors specific to each policy area; interdependence among these socio-political-administrative actors; shared goals; blurred boundaries between public, private and voluntary sectors and multiplying new forms of action, intervention, and control” (Nzimakwe, 2005).

5. **Networks:** governance is broader than government, with services provided by a combination of government, the private sector, and voluntary agencies. The South African Government creates agencies, bypassing the regional government, uses organizations to deliver services, and encourages relationships between the public and private sectors. “The network form of governance highlights reputation, trust, reciprocity, and mutual interdependence” (Larson, 1992). This use of governance means the government is self-organizing and self-governing (Nzimakwe, 2005:27). “Deregulation, government withdrawal and steering at a distance are all notions of less direct government regulation and control, which lead to more autonomy and self-governance for social institutions” (Kickert, 1993). In India, the Delhi government initiated the Bhagidari Partnership Project in 2000. Bhagidari means “collaborative partnership”. The partnership was formed on the principle that “Good governance is not about running a government for five years, but it is about reaching to the people cutting all the bureaucratic barriers and participation of citizens in governance,” (Gaurav and Singhail, 2006:78). The partnership aimed at utilizing processes and principles of multi-stakeholders (citizen groups, NGOs, the Government) collaboration, developing ‘joint ownership’ by the citizens and government of the change process and facilitating people’s participation in governance (Gaurav and Singhail, 2006:79). Their representatives, at periodic intervals, meet and discuss problems being faced by citizens and attempt to determine ways of resolving them.

2.8 Good governance

Good governance refers to a democratic government with constitutional rights and participation (Mohamed Sayeed, 2014:57). According to Zhang (2019), UN ESCAP (2009), and Guntur (2017), principles of good governance include effectiveness and efficiency. "Government institutions produce results according to citizens' needs and use available resources as optimal as possible" (Azhar and Azzahra, 2020:243).

"Good governance implies an efficient and predictable public sector incorporating participation and the rule of law, i.e., with the characteristics of democratic governance" (Sida, 2002:2). The Swedish Government refers to good governance as "a system of government encompassing the state's way of exercising its political, economic, and administrative powers" (Sida, 2002:3). Government institutions must possess the principles of the rule of law, integrity, openness, efficiency, and responsibility (Kunicova, 2020:3)

According to the Ontario Human Rights Commission (2007:7), good governance is "the exercise of authority through political and institutional processes that are transparent and accountable and encourage public participation". Good governance is achieved by a democratic government for the benefit of its citizens (Cloete et al., 2000:6).

From the governance definitions and discussion above, it should be observed that good governance is essential when bad government deals with challenges such as conspiracy, corruption, and nepotism actions. Five basic good governance components can be identified: the rule of law, legitimacy, efficient public sector management, accountable government, and trustworthy legal framework. These components are aimed at improving sustainable development. The World Bank has identified that achieving good governance proves to be an ideal situation that is difficult to accomplish for developing countries. To motivate good governance, multiple international organizations have gathered to fund struggling countries to improve governance in their governments. Good governance standards require governments to enhance and uphold governance and form a democratic state. Countries that lack good governance tools often show government officials committing mismanagement and maladministration.

Poor economic growth in developing countries is mainly a result of poor governance. States become fragile when they suffer high governance deficits, reflected by natural disasters and internal conflicts. Fragility can be observed in Ethiopia, Yemen, Venezuela, and Sudan. These countries show the effects of state fragility that stretch beyond poor services, including state

collapse, conflict, political instability, denial of resources to population subgroups, and loss of territorial control.

The failure to improve essential services to citizens, such as primary education and proper health care, measures the governance deficit. Governments can deliver services effectively when there is accountability between government officials and citizens. Accountability provides a platform for public policy to excel for the benefit of service recipients. But in fragile states, poor accountability breakdown the service delivery. Therefore, service recipients must take an active role and impose accountability.

2.8.1 Core Principles of Governance

Some of the governance principles highlighted by the United Nations (2014:vii) were transparency, accountability, the rule of law, and public participation. A responsible government implies “mutual accountability, verified by transparent and credible mechanisms and processes to ensure that agreed commitments and duties are fulfilled” (Sida, 2002:4).

2.8.1.1 Accountability

According to Mohamed Sayeed and Pillay (2013:88), “accountability implies that individuals are responsible for their actions and be required to report to a recognized authority”. The deputy managing director of the International Monetary Fund, Carstens (2005:1), quotes two meanings of accountability from his speech; “Accountability is the quality or state of being accountable”; the second meaning targets public officials—“the obligation or willingness to accept responsibility or to account for one's actions”. Nzimakwe (2005:119) argues that accountability does not only exist for government officials but also for the private sector must be held accountable for their actions. Accountability then becomes an essential part of a functional government. It becomes an important component of the government's success (Mohamed Sayeed, 2014:78). In the modern world, most authority is delegated to public authorities. Carstens (2005) then argues that delegators (the entire society) need some form of assurance from those in power, ensuring that the transfer of power is not only practical but also not abused.

It should be noted that governance bodies can lack accountability, especially in third-world countries. Governance bodies operate without some level of accountability which draws on the characteristics of corruption. Therefore, the existence of accountability “forms an important component of a government’s legitimacy” (Mohamed Sayeed, 2014:78). Government officials

often advocate for promoting accountability in government structures but avoid being held accountable. Edwards and Hulme (1995) argue that perfect accountability is idealistic, and the continued lack of accountability will hinder legitimacy.

Ocampo and Arteaga (2014:5-6), accountability carries three dimensions: Answerability, Enforceability, and delimitation of responsibility.

1. **Answerability:** public officials are required to explain and justify their actions. It involves government officials holding public debates or establishing formal monitoring mechanisms.
2. **Enforceability:** accounting parties can impose sanctions on government officials who violate rules. No public official is above the rule of law in a democratic government. It is understandable when accountability does not exist in a non-democratic society like in Eswatini, with an absolute monarch, and Iran, with a supreme leader above the constitution. One could argue that good governance principles disallow public officials not wanting to be subjected to the rule of law. The government should retaliate according to good governance standards when officials violate the law. It seems to be a problem for officials to be held responsible and punished in the developing world. Law enforcement is carried out by effective arms of government (executive, legislative and judicial). There should be independent institutions that the government cannot influence (Attorney generals, etc).
3. **Delimitation of responsibility:** i.e., all positions of authority must contain clearly defined duties and the requirement that all positions of authority should have clearly defined duties and performance standards, enabling their behaviour to be assessed transparently and objectively. This supports the two dimensions, as holding officials accountable without clearly defining their responsibilities is impossible.

Ocampo and Arteaga (2014) mention three forms of accountability: vertical, horizontal, and social. Vertical accountability is a principal-agent issue, “the most important of which are elections when the voters put the governments to account” (Luhrmann, Marquardt, and Mechkova, 2020). Horizontal responsibility is associated with enforcement conducted by different institutions mutually (O’Donnell, 1998:6). Social accountability refers to “various independent media outlets and civil society organizations exercising control of government officials” (Camargo and Stahl, 2016:4).

2.8.1.2 Transparency

According to Mohamed Sayeed (2014:63), “decisions and performances of all decision-makers should be accessed freely, and data should be reliable”. Rules and regulations are enforced to govern the decisions taken (IMF, 2005). Transparency means free accessible information about government officials by the public (Kunicova, 2020). It highlights how those in power are performing (Nzimakwe, 2005:30).

Transparency and accountability are essential factors in achieving a democratic society. In modern times, power is often delegated to public officials; citizens vote for people to represent their interests in government. Assurance should then be provided to the voters, protecting their interests and ensuring that power is not abused but remains effective (Nzimakwe, 2005). Transparency makes information available to the public to keep track of performances. Government departments should clearly define their functions, goals, and people responsible, so necessary people can be held accountable (IMF, 2005). Authorities need to remain aware that the public should know every decision they take. Even in multi-party governments, different interests are combined, and compromising serves the large public, ensuring that those who voted against the decision are protected and not violated (Haymond, 2020:1).

Transparency allows the public to get involved in the running of their government (Mohamed Sayeed and Pillay, 2013:89). Public participation is a package of transparency and accountability (IMF, 2005). Citizens want to feel like they contributed to the decision-making and are not dictated to by the government. People cannot trust their government without transparency and accountability (United Nations, 2020). Lack of trust will result in political and social instability and an environment that is not friendly to economic growth (Carstens, 2005).

2.8.1.3 The Rule of Law

Under good governance, everyone is subject to the law. The laws enforced should be consistent with international human rights norms and standards (United Nations, 2016). The law serves as a supreme ruler, which demands equality before the law, uninterrupted application of the law, and legal transparency (Nzimakwe, 2005). Societies cannot function with stability and peace; therefore, the law is a building block for communities' flourishing (OECD, 2015). The ruling elites and citizens are equally accountable before the law. Unlike non-democratic societies, specific laws only apply to a particular group. The existence of the rule of law highlights characteristics such as human rights, an electoral system, laws to protect minorities,

constitutional limits on power, and commitment to gender equality (OECD, 2015). Successfully implementing the rule of law over corruption depends on dedication to transparency and accountability (USCIB, 2015).

Like other good governance characteristics, the rule of law adheres to public participation. The government should include society in decision-making, and policies should be formed according to the needs of the voters. According to Mahomed Sayeed (2013:64), “the rule of law forms a foundation for measuring the legitimacy and integrity of the state”. The government needs to establish laws and forms of accountability to guarantee equal justice (Ocampo and Arteaga, 2014).

2.9 Governance and Disaster

Governance principles such as community participation, policy, legislation formulation, prevention, community empowerment, and risk assessment are essential (O'Donnell, Smart, and Ramalingam, 2009:14). The factors will be discussed below:

2.9.1 Community Participation: "Is an active involvement of people in making decisions about policies that affect them" (WHO, 2022). This approach demands the active role of the community in disaster management, especially those from disaster-prone countries. This should occur before and post-disaster. Governments should implement policies that foster community participation to training recipients in dealing with disasters (Suprawiti, Yuwanto and Kushandajani, 2022:1). (UNDP, 2016) argues that community participation is the most valuable to:

1. Define problems accurately by providing platforms for people to discuss vulnerabilities and offer adequate responses.
2. Reinforce local organization and capacity to cooperate and motivates people to tackle problems individually and collectively.
3. Respect people's rights during public participation.
4. Local people offer knowledge, experience, and expertise to external sources. External sources gain extensive insight into the community's needs.
5. Maybe be cost-effective partly because it allows policies to be tested and redefined before adoption.

2.9.2 Policy and legislation: It is essential for reducing disaster risks. This can be seen in man-made hazards, such as faulty construction and oil spills. On the other hand, natural disasters continue to be devastating beyond the law, but reducing the impacts is possible. Key international policy frameworks were the “international decade for disaster reduction in 1990”, “United Nations International Strategy for Disaster Reduction in 2000”, “Hyogo Framework for Action in 2005,” and “Sendai Framework in 2015”. These strategies highlighted the importance of inter-government coordination, the importance of resource allocation, and the need for the local government's capacity. The constant evolution of disaster frameworks is required (Athrens and Rudolph, 2006:207).

In most cases, third-world countries are often faced with challenges dealing with disasters. Bangladesh's “Standing Order on Disasters of 1999” set out duties to government departments, including public radio and television. As well as the “Philippines' 2010 Disaster Management Act”, “Colombia's 1998 Law”, and “Djibouti's 2006” law on creating an Institutional Framework for the Management of Risks and Disasters. The government is responsible for developing relevant legislation and policies to mitigate disaster risks (UN, 2016).

2.9.3 Community Empowerment: sharing information during a disaster has proven vital, shown through Ebola, Durban floods, and Droughts. Governance structures are required to be transparent and share information with the public. The framework of community empowerment is informed (community informed through websites and media), consult (obtain community input on the analysis), involve (listening to community concerns), collaborate (seek community advice) and empower (Van Krieken and Pathirage, 2019:18). Van Krieken, Kulatunga, and Pathirage (2017) argue that it highlights community empowerment and enhances participation. Van Krieken and Pathirage (2019:16) mention the critical points for community empowerment: The community is the first responder; the community has the strength to regroup; empowerment makes the community feel like decision-makers and fosters decision-making; communities share responsibility in decision-making and accountability.

2.9.4 Prevention: Early disaster prevention education is essential for pre-disaster preparedness and emergency response during disasters. Prevention limits a community's vulnerability to disaster impact and fosters disaster risk reduction. Countries have recently acknowledged the significance of disaster preparedness and mitigation and are investing in related activities. For example, in Taiwan, the Ministry of Education introduced disaster prevention education in schools in 2001 and the subsequent years and implemented pilot programs for e-learning which

included natural hazards (floods, typhoons) and man-made (explosives, chemicals) (Chen and Lee, 2012:546).

2.9.5 Risk Assessment: assessment can be done using a quantitative or qualitative approach. Assessments assist with understanding the vulnerability to disasters that could pose harm to citizens (UNDRR, 2016). UNISDR (2017;11-14) highlighted three stages of risk assessment: preparing and scoping (considering what needs to be done before the disaster management process), conducting a risk analysis, and using results in disaster risk management and sustainable development.

2.10 Summary

This chapter has discussed policy and public policy. The study provided a detailed discussion focusing on the policy process to offer depth to each of the five phases of a policy cycle. It further provided an overview of the policy models/theories (Rational, Incremental, Elite, Classical, and Group Theories). This assisted with understanding the complex process of policymaking. The chapter also discussed the concept of good governance and outlined its principles (accountability, transparency, rule of law, and public participation).

CHAPTER 3: DISASTER MANAGEMENT

3.1 INTRODUCTION

This previous chapter has discussed public policy and good governance frameworks. To enhance the readers understanding, it further discussed challenges to good governance and the results of non-existing governance in government. Good governance practices have proven essential for government policies to be guarded. Good governance leads authorities to promote the rule of law, accountability, and transparency.

Over the past 60 years, people have been vulnerable to natural disasters, tsunamis, landslides, floods, tropical storms, drought, etc. These disasters have also inflicted injuries, diseases, homelessness, displacement, misery, and colossal material damage. Incidences of disasters have continued to grow in number, including the number of people affected and the magnitude of economic loss: the recent drought in East Africa (UNICEF, 2022), floods and landslides in South Africa (IFRC, 2022), Ebola crisis in west Africa (WHO, 2022) and floods in South Korea (YONHAP, 2022). These disasters highlight the need for the international community and local government to agree and address poor capacity to foster an improved disaster response. The First World has seen progress with disaster management efforts, unlike the Third World, wherein most countries lack the means to decrease the existing vulnerability of their people to disasters and risks.

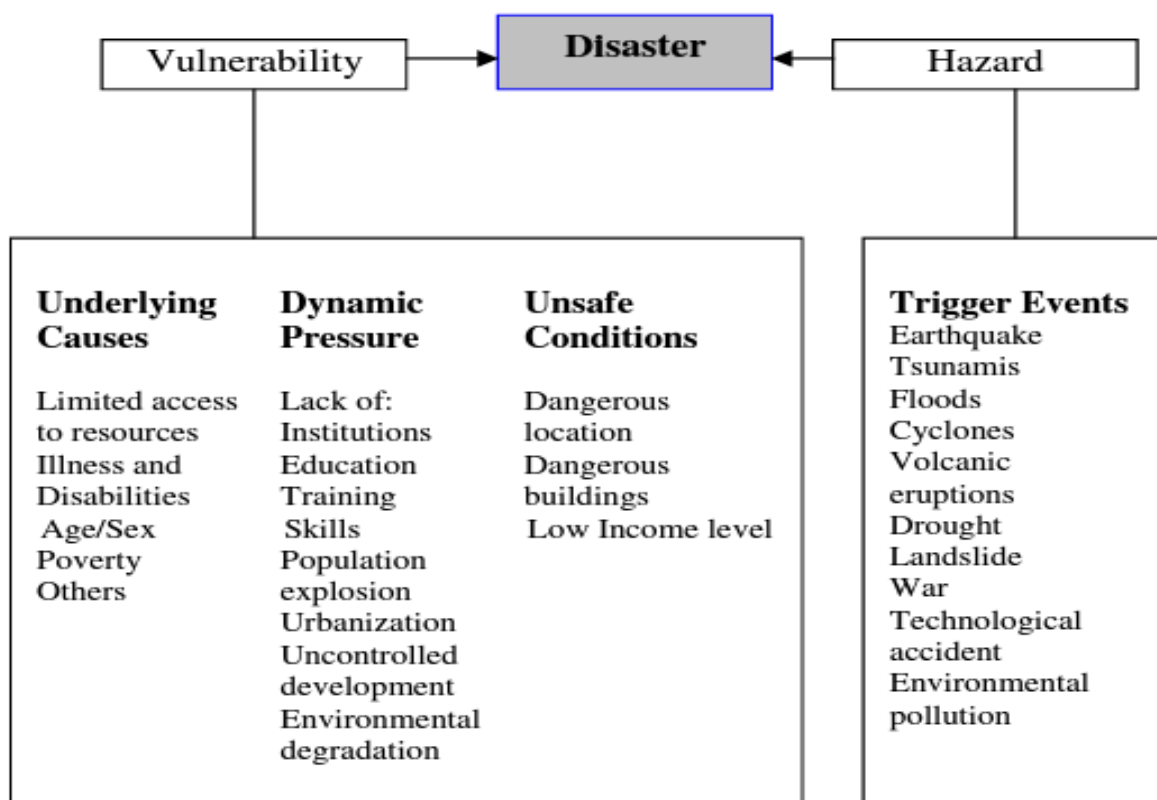
According to Babbie and Mouton (2014:566) and Snyder (2019:333), the literature review forms a significant part of research because it enables the researcher to gather information about what has been previously undertaken in the field and identify the issues to be solved. This chapter provides a literature review focusing on the discussion of disaster management through an analysis of various generic and universal areas, emphasizing local and some global aspects. A thorough discussion of disaster management and relevant governance initiatives will be discussed.

3.2 Contextualizing Disaster Management

The word disaster originates from the French word "Desastre" which is a combination of two words: "des" meaning bad and "aster" meaning star, thus referring to "Bad or Evil star" (Khan, Vasilescu and Khan, 2008:1). According to Khan et al. (2008:1), "Disaster is a sudden adverse or unfortunate extreme event which causes great damage to human beings, as well as plants

and animals”. Benson and Clay (2004:5) say that a disaster is the "frequent occurrence of hazards that poses a significant risk to a specific geographical location". "It occurs to affect the normal living conditions of a specific community negatively" (Holloway, 2003:33). A disaster occurs suddenly as a storm, flood, or an accident that causes great suffering (Longman Dictionary of Contemporary English, 2003:442). Tobin and Montz (1997) argue that these events occur rapidly, natural or man-made, beyond capacity. According to the International Federation of Red Cross (IFRC) (2000:6), "events such as earthquakes, floods, and cyclones must not be considered disasters". These events only turn into disasters when they exceed tolerable magnitude and surpass a community's strength. "The realized hazard risk must overwhelm a community's response to protect itself to be considered a disaster" (Coppola, 2015:25).

FIGURE 3.1: Disaster Vulnerability and Hazards



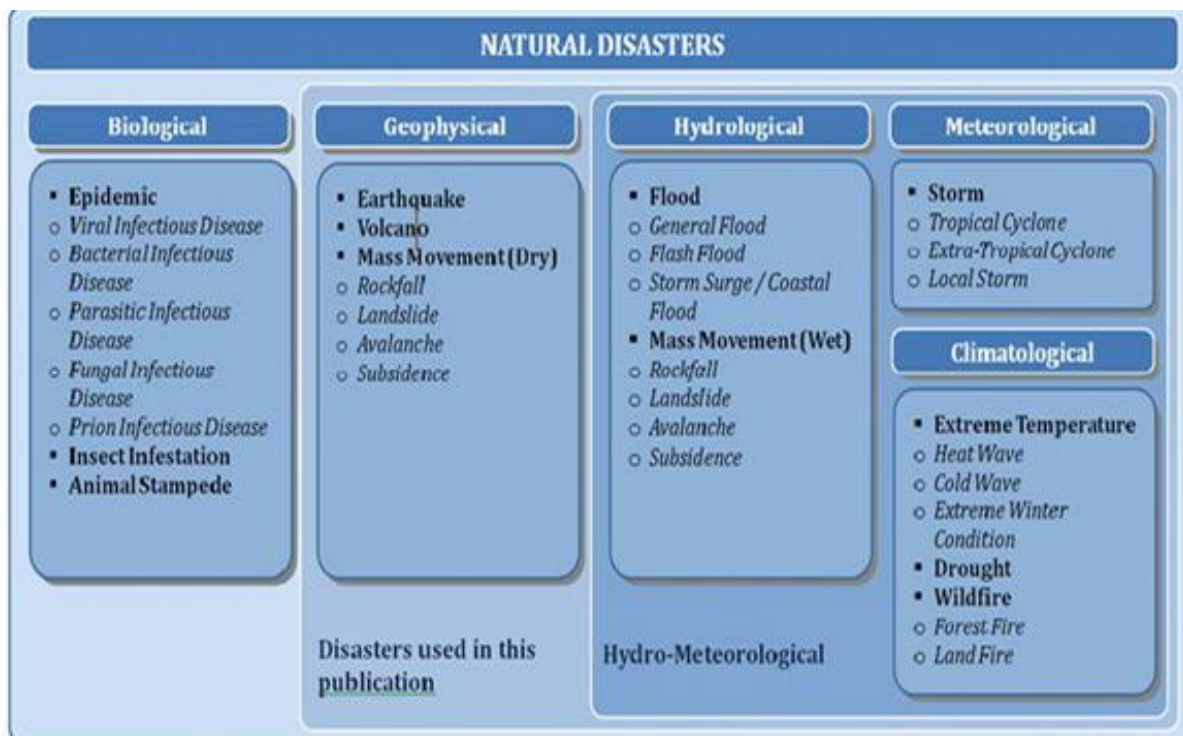
Source: Khan, Vasilescu, and Khan, (2008:1)

From Figure 3.1, one could argue that natural disasters occur when hazards and vulnerabilities meet. Khan et al. (2008) identify three components: hazards, vulnerability, and capacity, as foundations of understanding disaster management.

3.2.1 Hazards

According to the United Nations (2016), "A hazard is an activity that threatens the quality of life, property, economy or environment". Any event that is prone to cause damage, harm, disease, and death is a hazard (Western Sydney University, 2020:2). "A hazard may be regarded as the pre-disaster situation in which some risk of disaster exists" (Alexander,1993:7). Hazards consists of two categories: natural and man-made hazards (Khan et al., 2008). Natural hazards include geological or meteorological such as earthquakes, tsunamis, and floods. Man-made hazards are caused by human negligence, leakage of toxic waste, dam collapse, wars, or pollution. Khan et al. (2008) continue to argue that there are events where natural and man-made hazard features occur, such as flooding being caused by poor drainage systems and heavy rains, which can then be referred to as socio-natural hazards.

FIGURE 3.2: Natural Disaster Categorization



Source: Guha-Sapir and Santos (2013:10)

Figure 3.2 shows the different categories of natural disasters.

Biological hazards: These are “organisms or substances produced by organisms that threaten human health” (Rim and Lim, 2014:44). A biological emergency can occur when a major outbreak of diseases such as Ebola, COVID-19, Monkey-Pox, Yellow-fever, and Cholera occurs.

Geophysical hazards: Examples consists of tsunamis, rockslides, and volcanic eruptions. “These events when the earth’s core is disrupted” (Ramkumar, 2009:1).

Hydrological hazards: Extreme water occurrences and movements such as hailstorms, flooding, landslides, droughts, and rive scour (Trajkovic, Kisi, Markus, Tabari, Gocic, and Shamshir-band, 2016:1).

Meteorological hazards: Different types of small storms due to poor atmospheric conditions (Sibanda, 2016:114).

Climatological hazards: Long-lasting bad weather conditions such as drought, and extreme colds and heat (IFRC,2020)

3.2.2 Vulnerability

According to Copolla (2006:25), Vulnerability in Latin means wound. The Cambridge Dictionary defines vulnerability as “the quality of being vulnerable, being exposed to getting hurt, influenced or attacked”. The higher chances of a community or structure getting damaged due to a particular hazard highlights vulnerability (Khan et al., 2008:45). Du Toit, Knipe, Van Niekerk, Van Der Waladt, and Doyle (2002:52) refer to vulnerability as the “inability of a community’s economic, social, and environmental factors to enable the escape of an impact”. Environmental, social, economic, and political factors determine the extent of the vulnerability of a community (Rottach, 2008:6). Cassel-Gintz (2007:11) argues that vulnerability is registered by exposure to hazards and the sensitivity and capacity of a community experiencing hazards. The UNISDR (2002) outlines the vulnerability dimensions related to inequalities, economic patterns, ethnic or racial divisions, and gender relations: physical, social, economic, and environmental vulnerability.

3.2.2.1 Physical Vulnerability

Physical vulnerability is primarily visible in dense areas, isolated settlements, poor housing materials, and critical infrastructure (UNISDR, 2002). Physical conditions such as infrastructure, buildings, and location describe physical vulnerabilities (Khan et al., 2008). For example, houses made of plastic in informal settlements are more likely to be susceptible to rain. It is not only based on physical conditions but also on the capability of structures to withstand a disaster. Physical vulnerability indicators are used to assess vulnerability, observing the resistance to hazards impacts (Birkmann, 2006; Closset, Feindouno, Guillaumont, and Simonet, 2018:2).

3.2.2.2 Social Vulnerability

Social vulnerability is “the socio-economic factors that affect the resilience of communities” (Flanagan, Gregory, Hallisey, and Heitgerd, 2011:1). To determine vulnerability, a community’s exposure to hazards and its capacity to recover is measured (Cutter and Finch, 2008:2301; Raduszyski and Numada, 2023:2). Vulnerability in this context refers to the failure of communities to withstand the adverse effects of danger due to characteristics inherent in social interactions, institutions, and systems of cultural values (UNISDR, 2002). The social vulnerability concept was developed due to the negligence of researchers focusing only on physical vulnerabilities (UNISDR, 2002). Hurricane Maria in 2017 is an example that displays vulnerability as many people lost their lives and material losses, and many were reported to have no capacity to protect themselves or evacuate when necessary (Drake and Tate, 2022:1).

3.2.2.3 Economic Vulnerability

According to UNISDR (2012:xxii), a country’s economic structure, size, and fiscal dynamics determine the economic sensitivity of disaster. Third-world countries have shown more vulnerability to disasters due to a lack of financial means which leads to poor infrastructure, making them unable to protect themselves from disasters (Krasner, 1983:36). A recent example has been the COVID-19 pandemic. By September 23, 2021, President Cyril Ramaphosa reported that “wealthy countries acquired more than 82 percent of doses, and less than 1 percent were sent to low-income countries” (United Nations, 2021). During the pandemic, more economically developed countries received more vaccination than less economically developed countries. This showed an unequal distribution of vaccines as underdeveloped

countries fell behind while wealthy countries were already administering a third dose (United Nations, 2021)

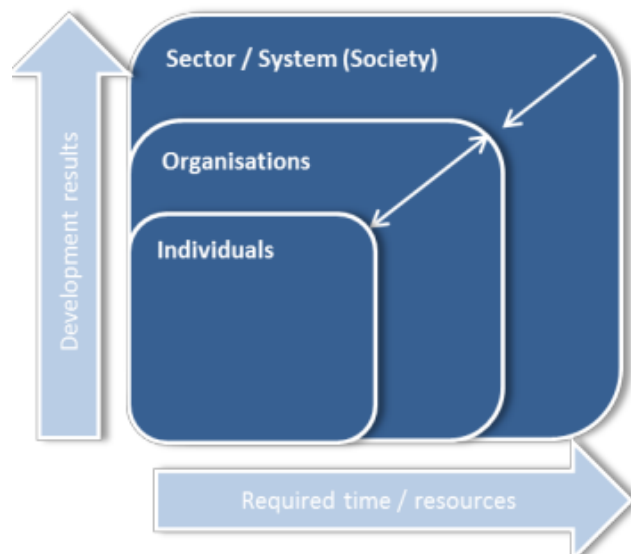
3.2.2.4 Environmental Vulnerability

Husna, Supriatna, Shidda, and Manesar et al. (2019:9) refer to it as “environmental exposure, sensitivity, and adaptive capacity”. “Environmental vulnerability is the tendency of the environment and natural resources to experience damage” (Inter-American Development Bank, 1999). The Caroni swamps in Trinidad and Tobago are sensitive to increased seawater salinity, chemical waste, and eutrophication from nearby farms. Indonesia depicts environmental vulnerability as it sits on the “Ring of Fire”, containing active volcanoes (Pannett, Cunningham, and Cappucci, 2022). Over the past two decades, Indonesia has reported multiple natural disasters in which multitudes lost their lives and displaced many. Infrastructure was lost, leading to economic losses (Indonesia Investment, 2021). An earthquake of 7.5 Magnitude struck in Donegal, Indonesia, around 18:00, and less than half an hour later, a powerful tsunami swept in (Baker, 2018).

3.2.3 Capacity

Garca (2011) discusses capacity in a political science context as a relevant feature of the state. He refers to capacity as the state's ability to perform its essential functions: to be sovereign and deliver security to its citizens. According to Khan et al. (2008:45), capacity is “the availability of adequate resources and strength that communities possess to recover from disaster”. Capacity is coping, preparing, preventing, and mitigating during a disaster. This involves a “combination of competencies and capabilities” (Isaza, Kit, Herrera, and Balanzo, 2015:3). Capacity can be analysed in three approaches: institutional, organizational, and individual (Isaza et al., 2015:3).

FIGURE 3.3: Three Levels of Capacity



Source: Austrian Development Agency (2011:6)

Figure 3.3 clearly shows that all levels of capacity display an interrelationship. One must consider all three when determining a proper response to a disaster. What may start as an individual-level issue may become an organizational-level concern (CADRI, undated:12).

3.2.3.1 Institutional Capacity

The United Nations Development Programme (UNDP) defines institutional capacity as “the capability of an institution to set and achieve social and economic goals through knowledge, skills, systems, and institutions” (ITDP, 2016). Keohane (1998) argues that institutions are more than government agencies but also processes, practices, and rules that dictate actors' roles. Institutions are required to be durable as they act as sources of authority, whether formal or informal, structuring interactions between communities, individuals, companies, and other entities (Williams and Baumert, 2003:12). Political scholars place the responsibility on accountability, transparency, fairness, the rule of law, and co-production (Cloete, 2008).

3.2.3.2 Organizational Capacity

According to Cornforth and Mordaunt (2011:4), organizational capacity refers to “various stages of analysis (factors affecting capacity, resources, strategies, and processes)”. Organizational capacity is mainly displayed by an organization’s ability to adapt and adjust to change. In an inability to adapt, organizational performance can be enhanced through proper

planning, informed leadership, strengthened administrative systems, and allocating roles and responsibilities (UNDG, 2021:5). Fowler (2010) concerns public management and particular practices, routines, and characteristics of agencies. Capacity indicators of this approach include democracy and quality of government, freedom from external forces and bureaucratic capabilities, and capacity to implement policies responding successfully to disaster (WHO, 2020). For an organizational approach to disaster, the community should be at the centre of risk management, and all approaches should be centred around the community's capabilities and interests (Cvetkovic et al. 2021:3).

3.2.3.3 Individual Capacity

According to UNDG (2021:5), institutional capacity is achieved by enhancing individual knowledge, experiences, and training. Capacities include educational level, competencies and skills, specific technical abilities, and expertise (Isaza et al., 2015). Everyone possesses capabilities that permit them to perform in society (UN, 2020). These individual capacities are acquired chiefly through experiences and shared networks. Still, formal skills can be attained through training and formal education (ADA, 2011:6). Cvetkovic, Tanasic, Ocal, Kesetovic, Nokolic, and Dragasevic (2021:3) advocated for individual capacity building. They argue that focusing on only improving the central government's capacity for disaster management will produce fewer effective outcomes. Therefore, public participation must be encouraged by the central government to involve individuals in reducing disaster-related damages (WHO, 2020).

3.2.3.4 Khan et al. (2008:4), in a disaster context, classify capacity into two categories: Physical and socio-economic.

- **Physical capacity:** it includes the equipment available, means of communication, and infrastructure available in the country like hospitals, roads, labs, schools, transport, etc. Developing countries with their infrastructures destroyed during a disaster often possess zero capacity for disaster response.
- **Socio-economic capacity:** In most disasters, for example, the recent COVID-19 Pandemic, first-world countries showed the ability to respond quickly and even possess the means to develop and acquire vaccination first; these countries are enabled by their wealth. Disasters less impact their economies because they live in secure states.

However, they can deal with it even when they are heavily affected. Organizations are built to help in case of disasters or to carry out other welfare activities like community-based organizations and feeding schemes.

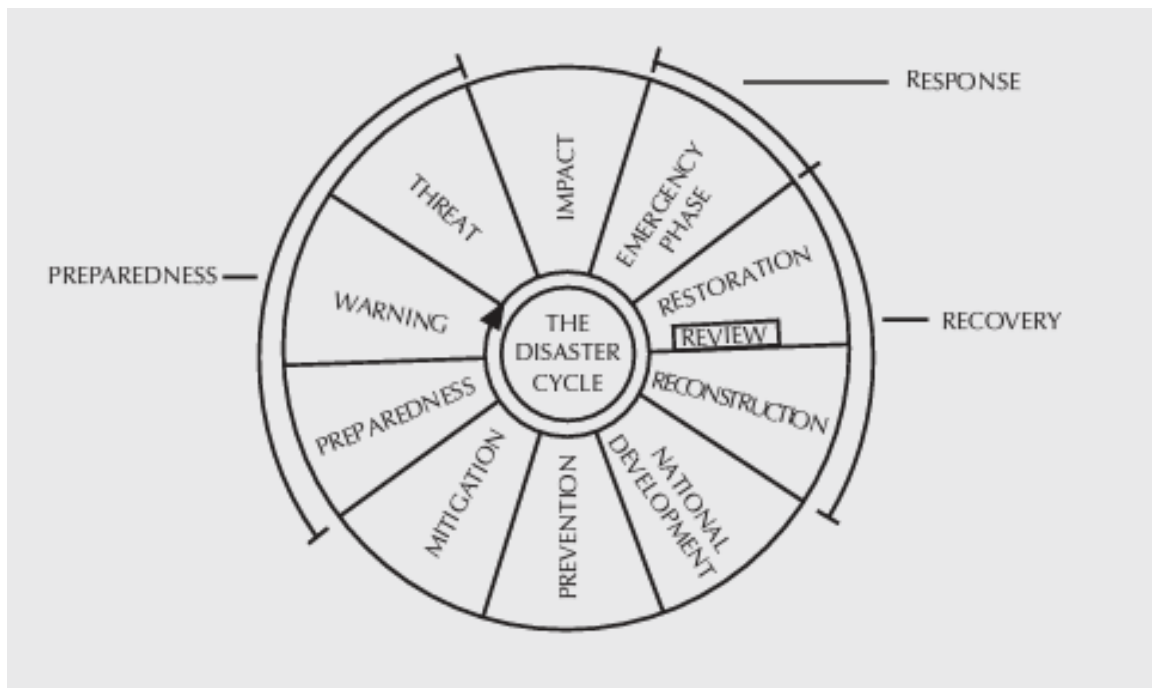
3.3 Disaster Management Cycle

According to the European Commission (2022), “disaster management is the organization, planning, and application of measures preparing for, responding to, and recovering from disasters”. Disaster legislation and solutions should be established together with necessary strategies for each stage of disaster response (UNDP, 2004:21). Disaster risk reduction forms a part of a disaster management strategy that seeks to apply policies to reduce vulnerabilities and limit the extent of damage caused by disasters (Western Cape, 2015). “Disaster management involves beyond planning a disaster response and includes pre and post-disaster activities” (Coburn, Spence, and Promonis, 1994:67). The European Commission (2022) argues that disaster management focuses on formulating and implementing preparation methods. Still, it is incapable of removing the threat of disaster.

According to Sena and Woldemichael (2006:112), disaster management aims for:

- Reduction of potential hazard losses.
- Assurance of adequate assistance.
- Achieving durable and swift recovery.

FIGURE 3.4 Disaster Management Cycle



Source: Carter (2008:50)

Figure 3.4 shows one of the disaster management strategies utilized to reduce disaster impacts.

The United Nations Office Disaster Risk Reduction (2017:4) disaster management cycle consists of the following stages:

- **Prevention:** According to UNISDR (2015:59), “Prevention measures and activities to tackle new and existing disaster risks”. This stage involves methods to avoid disaster risks by removing communities from risk zones, building dams to monitor floods, and providing proper infrastructure (UNISDR, 2012:4). Sometimes, a form of legislation acts as prevention that prohibits people from illegally occupying land that is considered vulnerable by the government and prone to disasters like flood plains.
- **Mitigation:** Khan et al. (2008:95) argue that everyone is responsible for preventing and mitigating disaster risks. Examples include safety regulations regarding high-rise buildings, land-use laws, enforcement of building codes, and the development of new highways to decrease accidents. Reduction actions usually are programs aimed at reducing disaster impacts.

- **Preparedness:** “The aim is to prepare for disaster and reduce impacts with well-equipped services” (Sena and Woldemichael, 2006:114). This stage “involves measures taken to ensure an effective response to the impact of disasters” (Messer, 2003:13). Regimes should be able to anticipate potential disasters, react effectively, and recover (UNISDR, 2017:4). Preparation is outlined in three stages: plan preparations, getting equipped for implementation, and implementing the plan. Examples include arranging emergency materials, identifying eviction methods or relocation, updating counter-disaster plans, and emergency communication.
- **Response:** Disaster response focuses on minimizing disaster impacts, saving lives, and achieving stability (John Hopkins and the International Federation of Red Cross, 2008:28). During this stage, actions are taken to ensure public safety and provide services to those affected (UNISDR, 2015:40). Disaster response is sensitive to time; it needs to be well-equipped and well-coordinated by all necessary departments.
- **Recovery:** “Involves decisions and actions aimed at restoring or improving livelihoods and health, including economic, physical, social, cultural, and environmental assets, systems, and activities of a disaster-affected community or society, aligning with the principles of sustainable development” (UNISDR, 2015:45). Recovery should take place after a disaster, during which the government must direct efforts to bring the lives of its citizens back to normality. During this phase, essential services are restored, and risk factors are minimized (Carter, 2016). A state needs to develop a recovery strategy to ensure vital business continuation in the process of disaster (Duze, 2016). According to Martin (2002), a recovery strategy should provide an effective solution to recover all vital business processes within the required time frame using vital records stored off-site. A state would then look to test its recovery plan and may newly develop an improved strategy. It is important to note all the challenges and successes in the recovery process to ensure that all is up-to-date and would be ready to be implemented if a similar event occurs. Examples include reconstructing major infrastructure, economy, and environment, repairing utility systems, health and communication facilities, and other essential services.

3.4 Disaster Governance

This term has been emerging in the disaster management rubric and relates to risk governance which consists of governance application when responding to disaster (Tierney, 2012:342). In its application, the state will promote participation and allocate responsibilities and resources to achieve the desired outcomes (Meerpoel, 2015). As discussed in the previous chapter, transparency, accountability, response, and effectiveness are essential for sustainability. Disaster governance addresses risks imposed on health, safety and security, and environmental hazards. According to Gall, Cutter, and Nguyen (2014:6-11), disaster governance can be described in four categories:

1. **Elements of disaster governance:** This can be characterized as a risk management operation collaborating with different stakeholders. Governance requires stakeholder involvement, collaboration, and flexibility (UNISDR, 2016). Government platforms should serve “as advocates of disaster risk reduction and provide coordination, analysis, and advice on areas of priority requiring concerted action through a participatory process” (UNISDR, 2007:4). International organizations should collaborate with regional platforms as it increases disaster management capacity, enhances cooperation, and establishes the trust (UNDP, 2016). One of the challenges experienced by third-world countries is that they primarily have regional organizations that possess lesser financial power than first-world organizations. Therefore, disaster response proves to be more challenging as resource shortages hinder them. International cooperation should be motivated as it could foster more institutions to be formed and improve governance.
2. **Measuring effective governance:** It is essential to monitor governance progress in disaster management to observe the downfalls and successes of disaster governance. Measures of effectiveness (MOEs) are used as tools that provide a means for measuring the effectiveness, outcome, and performance (including success or failure) of disaster management (Burkle and Greenough, 2006:1). The aim of measuring effectiveness is to ensure that management requirements are fulfilled. Burkle and Greenough (2006) argued that “if the standard requirements are not satisfied across the management timelines, this becomes a negative variance that must be investigated and solved as soon as possible”. Monitoring the effectiveness of governance systems in reducing disaster risk requires data on society, the environment, and human actions and the development

of benchmarks and measures such as indicators (Gall et al.,2014). Information should be organized and shared across platforms where different actors can easily access it.

3. **Governance lessons learned from the past:** Disasters have occurred significantly in the last century, for example, hurricane Katrina in 2005, the 2010 Haiti Earthquake, the 2004 Indian Ocean tsunami, the 1995 Kobe Earthquake, and the most recent Coronavirus in 2019. They possess unique traits concerning impacts, failures, recovery, and governance networks. Challenges are unique to each context, but developing countries can take lessons from those better equipped and adjust the policy to apply to the local context.
4. **Sustainability Governance:** This implies the deliberate adjustment of practices of governance to ensure that social development proceeds along a sustainable trajectory (Meadowcroft, Farrell, and Spangeberg, 2005:5). Understanding the initiatives which governments and other social actors are already undertaking to deal with the interconnections among environmental, economic, and social problems (UN, 2016). Experiences are compared, trends analysed, and insight is gained.

3.5 Disaster Management International Strategies

3.5.1 International Decade for Disaster Reduction (IDNDR)

In the late 1980s, the United Nations highlighted the need to form effective disaster management policies and pass the resolution for the natural disaster reduction decade (Carter, D'Souza, Simkins and Simpson, 2007:51). The period 1990-1999 saw the beginning of the international decade for disaster reduction after the San Francisco earthquake in 1989 (Shaw, 2020:414). The international community was required to form collective efforts for disaster reduction (United Nations, 1993). The IDNDR seeks to enhance a country's capacity to deal with disasters by providing necessary equipment (CDC, 1994:421).

The IDNDR objectives included:

1. Improving human resources and capacity (e.g., educating individuals about disaster preparedness)
2. Introducing disaster management procedures into health programs.
3. Promoting collaboration for sectors responsible for disaster management.
4. Collecting post-disaster research regarding consequences (Identifying risk spectrum).

5. Improving technology- and information-transfer strategies.
6. Improving communication between at-risk communities before, during, and after a disaster.
7. Developing early-warning systems.

3.5.2 United Nations International Strategy for Disaster Reduction in 2000 (UNISDR)

This strategy was developed to enhance disaster risk reduction actions in the following years. The United Nations' former General secretary stated that "there has been a significant impact of disaster strategies, but major challenges seem to occur" (United Nations, 1999). New policies were required to offer a more significant reduction of vulnerabilities (United Nations, 1999). Zentel and Glade (2013:555) reported, "Major natural disasters rose by nearly a third, more than two-half times people died, and economic damage tripled". The UNISDR aims to educate at-risk communities about preventing hazards from turning into disasters (UNISDR, 2000). Supporting nations and communities to decrease disaster threats is the core of the United Nations International Strategy for Disaster Reduction (Duze, 2016:1). The UNISDR objectives can be simplified as the following (Zentel and Glade, 2013:555):

1. To educate the public about the risks of various hazards.
2. To commit public authorities to provide economic resources to reduce risks.
3. To promote public participation at all stages of policy implementation.
4. To foster less impact on social and economic sectors by disasters.

3.5.3 The Hyogo Action Framework (HFA) 2005-2015

While the UNISDR was in place, Japan's devastating tsunami occurred in 2004. It was the third largest since the 1900s and killed more people than any tsunami– with 230000 missing or dead in 14 countries across the Indian Ocean (UNESCO, 2014). Singh and Coates (2019) argued that "those killed in 2004 received no formal warning of the approaching waves and had almost no chance to get out of the way". The tsunami highlighted shortfalls of disaster management plans and the need for early warning technology. The tsunami showed the weak state infrastructure, inadequate resources, and appropriate policy framework to respond to the disaster. The lack of resources renders these countries vulnerable to large-scale disasters. UNESCO (2014) states that "the prevention, management, and reduction of disasters are a huge challenge for most countries".

The HFA acknowledges the need for governments to collaborate and form a policy to prevent, manage, and reduce disasters (Olowu, 2010:304). The Framework is a “global blueprint for disaster risk reduction to substantially reduce losses in human lives and socio-economic assets” (Olowu, 2010:303). Under the Hyogo framework, the UNISDR (2007:6) highlighted five key strategy areas for countries to use as a standard to contain disasters and their impact:

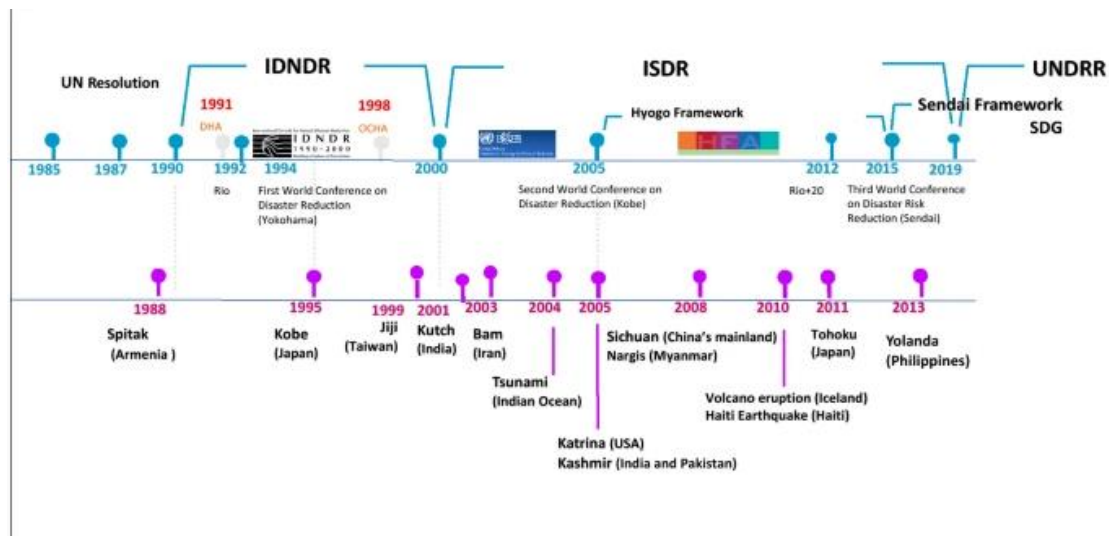
1. Put disaster risk reduction on the national and local agenda.
2. Identify, assess, and monitor disaster risks and enhance early warnings.
3. Use knowledge, innovation, and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness strategies.

3.5.4 The Third UN Global Conference on Disaster Risk Reduction: Sendai Framework 2015-2030.

The third United Nations conference was held in Sendai, Japan, on March 18, 2015, and the “Sendai Framework for Disaster Risk Reduction 2015-2030 was established” (UNDP, 2015). The UN 187 member states signed the global agreement. They replaced the Hyogo Framework that operated for the previous decade (Pearson and Pelling, 2015:1). It aimed to improve the work done on disaster management by UNISDR and HFA and take the agenda forward. “The Sendai Framework is built on factors that ascertain the continuity of the work done by stakeholders and governments during the negotiations and consultations” (Duze, 2016:7). According to the UN (2015:9), SFDRR provided countries with opportunities to:

1. Adopt an extensive disaster risk reduction framework.
2. Assess and review the implementation of the HFA.
3. Consider lessons learned through disaster risk reduction and their recommendations.
4. To identify ways of cooperation to implement disaster risk reduction.
5. To determine ways for timely review of policies implemented.

Figure 3.5: Summary of the Evolution of Disaster Risk Management



Source: Shaw (2020:415)

Figure 3.5 provides a summary of the evolution of disaster management strategies. Policies were improved with the sole purpose of improving disaster management.

3.6 Challenges to Disaster Management

3.6.1 Poverty

The World Bank (2020) reported that “55.5 percent (30.3 million) of the population lives in poverty at the upper-level national line (-R992)”, “while a total of 13.8 million people (25%) experience food poverty”. Poverty in South Africa continues to be a disaster, highlighted by the increasing gap between the rich and poor even post-apartheid, causing people to be vulnerable to disaster. One of the reasons for poverty in South Africa is the rising level of unemployment. Statistics SA reported that the unemployment rate was 33.9% in Q2 of 2022. More than 47% of the South African Population relies on a social grant (Department of Social Development, 2022). More than 5 million South Africans live in informal settlements, lacking essential public services like water, sanitation, and refuse removal from the hazardous environment (International Budget, 2021). Increasing urbanization also remains a challenge to the local government. Mokhoali (2022) reports flooding in Johannesburg that affected more than 300 families in Alexandra.

3.6.2 Finances

The lack of financial capacity is a common characteristic in developing countries. These countries rely on international organizations to fund disaster management, which renders them vulnerable in the face of disaster. Christoplos (2010:14) argued that “the fact that most funds for disaster management come from international organizations and not the government means that funds are limited, making them prone to inefficiency”. Botha, Van Niekerk, Wentink, Coetzee, Forbes, Maartens, Annandale, Tshona, and Raju (2011:97) mentioned that no funding would be available without adequate finances to sponsor skilled workers, capacity-building programs, volunteers, risk reduction projects, disaster response, post-disaster recovery, and rehabilitation. To increase the COVID-19 pandemic response, the South African government secured loans from the International Monetary Fund and World, adding to reprioritizing the 2020-2021 budget (Auditor-General, 2020).

3.6.3 Government gaps

The general protocol is national government to provincial government and provincial to the local municipality. There have been gaps of delayed delivery through the provincial government due to limited cooperation between the national and local spheres of government (Duze, 2016:80). The local level is characterized by unsuccessful disaster management responses due to maladministration in municipalities (Mamabolo and Sebola, 2021:134). The municipal government is at the forefront of service delivery during a disaster; therefore, the national funding should allocate sufficient funds towards the local government. Disasters tend to expose the inadequacies of disaster management in communities (Kunguma, 2021).

3.7 Summary

Understanding disaster management is essential, and the international community continues to appreciate its importance. The evolution and amount of literature regarding disaster management have multiplied in recent years, ushering in sharing lessons and implementation strategies. One aspect that continues to be a challenge is that of preventing disasters from occurring, whether natural or man-made. The least a government can do is strengthen its disaster mitigation and preparedness strategies. As governance requires, disaster reduction strategies should be at the core of every government's policy.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 INTRODUCTION

The previous chapter provided a literature review discussing disaster management according to different scholars. It provided an in-depth discussion of disaster management. It also briefly discussed relevant policies and governance initiatives. This chapter presents the research design and methodological approach the researcher adopted to respond to the research objectives and questions in the investigation.

4.2 Research Objectives and Questions

Research Objectives:

- To investigate the legislative provisions for disaster management in South Africa.
- To thoroughly understand the policy response to COVID-19.
- To determine policy governance arrangements for COVID-19.
- To identify challenges experienced during policy implementation.
- To provide policy arrangements to enhance the effectiveness of the COVID-19 policy response.

Research Questions:

- What are the legislative provisions for “disaster management in South Africa”?
- What was the policy response to COVID-19?
- What were policy governance arrangements for COVID-19?
- What challenges were experienced, and how could policy governance arrangements be changed to enhance their effectiveness in the future?

4.3 Defining the Term Research

According to the Oxford Dictionary, search means “attempt to find somebody/something, especially by looking carefully for them/it”. Research is a continuous investigation of facts until new knowledge is established (Pendey and Pendey, 2015:8). It refers to the scientific inquiry that is pursued to excavate the social reality (Creswell and Creswell, 2017:120).

According to Brynard and Hanekom (1997:4), “research is a systematic, multi-dimensional process by which data on an issue of concern is accumulated and analysed to make conclusions that extend the boundaries of knowledge”. “A research investigation aims to uncover new interesting facts” (Thomas and Hodges, 2010:39). Research involves a systematic observation, classification, and interpretation of data (Du Plooy-Cilliers, Davis and Bezuidenhout, 2014). Malinga (2021:53) reiterates that research is conducted to: “Ascertain the validity and evaluate hypotheses, broaden the scope of knowledge, share findings in appropriate manners, and design questions for the inquiry”.

According to Rajasekar, Philominathan, and Chinnathambi (2006:2), research is a logical step in searching for new and valuable information on a given topic. A researcher investigates solutions to social and scientific issues through objective analysis (Gounder, 2012). Kumar (2014:2) states that research is a way of thinking that starts with an observation. A researcher undertakes a study to find answers to a raised question. Gounder (2012) identifies three research processes; “being undertaken within a framework of a set of philosophies” (research approaches-qualitative, quantitative, mixed methods); using procedures, practices, “and techniques that have been tested for their validity and reliability” (applying correct research procedures to find solution and procedure that provides repeatability and accuracy); is designed to be unbiased and objective (exclusion of bias methods by the researcher and drawing each conclusion objectively, uncompromising the truth/answer). Omrod (2014:2) states, "Research aims should be put, and the research problem must be broken down into manageable and researchable sub-problems". Malinga (2021:53) argues the researcher must remain neutral, objective, and unbiased in all processes that inform the study- this means conclusions are drawn without infiltration of personal bias.

Researchers collect information from various sources like books, journals, people, experiments, experiences, existing research, etc. A study conducted on existing knowledge extends the information on the existing knowledge, identifies shortcomings in previous research, and improves it. The research seeks to predict their events, explanations, relationships, and theories (Du Plooy-Cilliers, Davis, and Bezuidenhout, 2014).

4.4 Research Approaches

4.4.1 Grounded theory

According to Kim (2018:20), “this approach relies upon a systematic set of procedures to develop an inductively derived theory about a phenomenon that is grounded or based in the data gathered”. In other words, data gathering and analysing establish a theory rather than the existing research and assumptions. It aims to establish or generate a theory (Glaser and Strauss, 1967:2). Researchers become theoretically sensitive by analysing data and attempting to understand what the participant sees.

4.4.2 Ethnographic

This method is designed for the researcher to “explore cultural phenomena by observing the society from the point of view of the subject of the study” (Whitehead, 2005). Researchers search for predictable patterns in the lived human experiences by attentively observing and participating in the lives of those under study (Angrosino, 2007). Researchers involve themselves in the everyday lives of the participants. Sangasubana (2011:568), the ethnographic approach offers advantages such as: being conducted individually; being carried almost anywhere; requiring no expensive or elaborate tools or equipment; providing a researcher with an opportunity to learn a new language and get an insider’s view of reality.

4.4.3 Case Study Approach

“A case study’s purpose is to represent the subjects authentically and discover their unique realities” (Du Plooy-Cilliers et al., 2014:179). When conducting a case study, a researcher allows participants to share their experiences with the outside world. People learn how specific communities or policies strive or suffer in similar living conditions. Case studies are essential in policy research as they provide good practice in delivering specific policies (Keddie, 2006:20). This method facilitates the goal of qualitative research to focus on a particular case (Kabir, 2016). This research will focus on the South African COVID-19 public policy response.

4.5 Research Methodology

Research methodology and methods have constantly been confused by researchers to be the same concepts. “Research methods are made up of techniques which are utilized to research, whereas thorough solving of research troubles refers to a research methodology” (Mishra and Alok, 2017:1). Research methods involve the conduct of experiments, tests, surveys, and

results and research methodology includes learning various techniques that can be utilized to conduct research. Fouche and de Vos (2002:137) describe research methodology as “a map or plan that outlines the processes to follow in conducting research”. It provides directions for a researcher to complete to accumulate accurate research on a selected topic. Lebethe (2018:29) states, "Research design is a written plan for the entire project with its various components. Plans include written methods for introduction, literature reviews, theoretical framework, data presentation, and results for this research. With a clear plan, a researcher can search and find all relevant information to the research problem, the strategy used, and all necessary details for the research” (Du Plooy-Cilliers et al., 2014).

Research scholars tend to focus on different aspects of research. For example, Creswell (2014:12) states that “research design is a type of tool or method that can use quantitative, qualitative, or mixed method approaches which provide specific procedures to follow in the research study. Schurink (2010:424) outlines step-by-step procedures that the researcher follows from identifying a problem to data conclusion. Schwardt (2007:145) clearly explains research methodology as a method or procedure through which the inquiry should be conducted. Creswell (2014:61) methodology encompasses research design and the underlying philosophy for data collection. Brynard and Hanekom (1997:28) in Mohamed Sayeed (2012:154) research methodology involves a "reflection on the planning, structuring, and execution of the research to comply with the demands of truth, objectivity, and validity”.

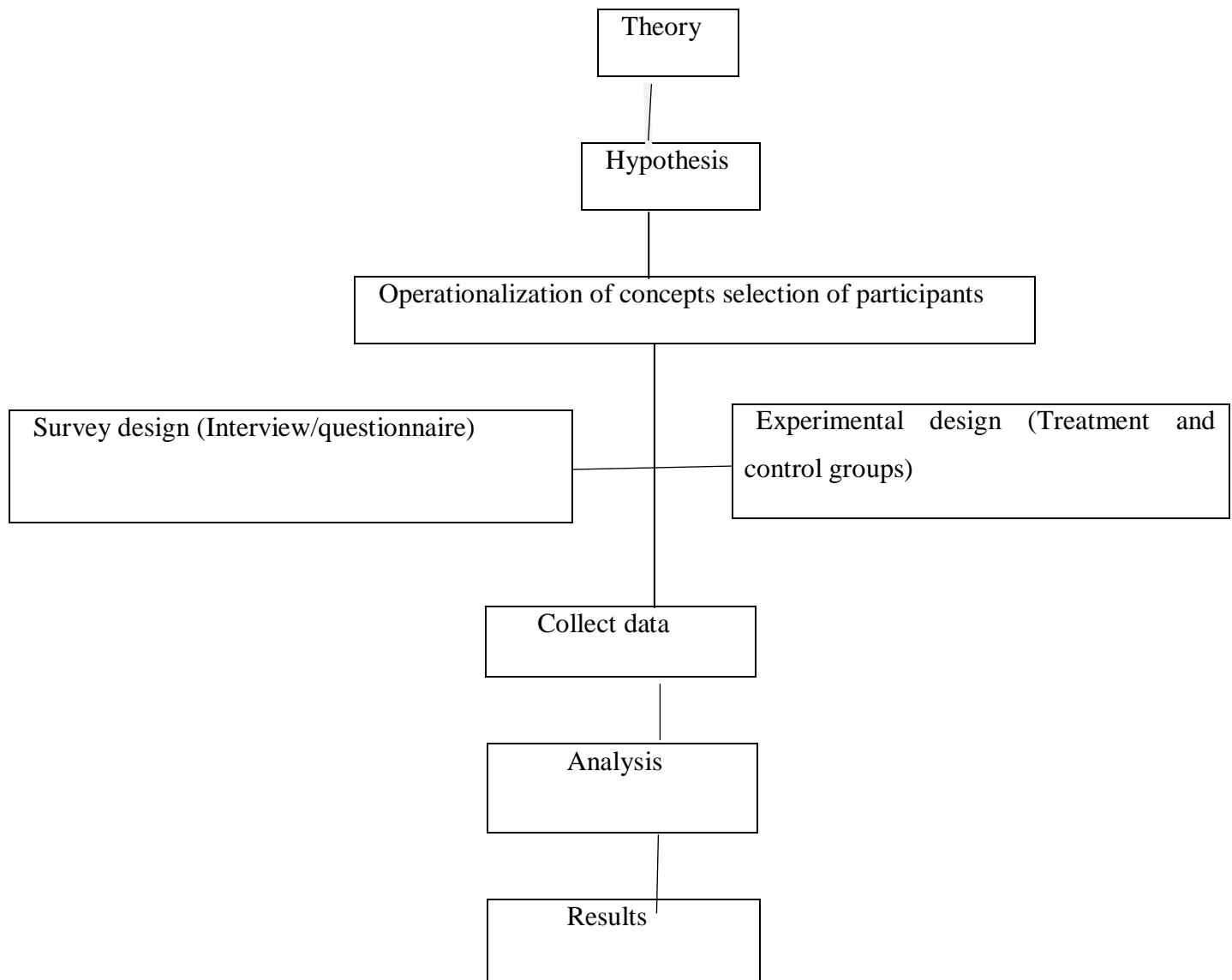
Social scientists have identified three approaches of research methodologies; “quantitative, qualitative, and mixed methods” (Creswell, 2014:18). The three research methodologies will be discussed below:

4.6 Quantitative Methodology

Babbie and Mouton (2005:104) define a quantitative study as “collecting primary data from large numbers of individuals and projecting the results to another population”. Quantitative research is an inquiry about the phenomenon through a collection of numerical data techniques” (Adedoyin, 2020:1). This means it seeks to quantify and analyse variables to get the results (Apuke, 2017:41). A hypothesis exists to test, assess differences, and explain relationships and test for intervention (LoBiondo-Wood and Haber, 2014:8). Chundleigh and Smith (2015:3) groups the quantitative research approach into four categories: correlation (explore between given variables), descriptive (explores and describes phenomena without any manipulation),

quasi-experimental (examine the casual relationship between variables) and experimental (allows random controlled trial).

Table 1: Quantitative Method



Source: Chundleigh and Smith (2015:3)

Table 1 outlines the steps of quantitative research.

Several scholars have criticized this approach. Cicourel (1964) argued that measures and concept connections developed are assumed rather than real, meaning that social researchers make connections rather than work with reality. Researchers assume that those who participate in a survey interpret the questions similarly (Du Plooy-Cilliers et al., 2014). “It fails to ascertain deeper underlying meanings and explanations” (Adedoyin, 2020:1). Rahman (2016:106) argued that the quantitative approach does not consider the complete picture of a subject as it

only measures variables within a specific timeframe. Daniel (2016:96) mentions the advantage of applying quantitative methodology is that utilizing statistical numbers for the research description is time effective.

4.7 Qualitative Methodology

According to Mouton, Auriacombe, and Lutabingwa (2006:508), qualitative research “is data that seeks to uncover the new ideas or hidden feelings/beliefs of respondents”. A qualitative approach is “an inquiry process of understanding based on the distinct methodological traditions of inquiry that explore social or human problems” (Lembethe, 2018:29). Berg and Howard in Daniel (2016:92) characterize qualitative research “as meanings, a concept, a definition, metaphors, symbols and a description of things”. It consists of all the necessary tools to foster problem-solving. Lembethe (2018:29) argues that it seeks to deeply understand the meanings associated with the research problem. Malinga (2021:57) uses a qualitative research methodology when researchers want to develop theories or hypotheses and an in-depth understanding of the phenomena being investigated in the study.

According to Mohajan (2018:2), a qualitative method "is an effective model that occurs in a natural setting and enables the researchers to develop a level of detail from high involvement in actual experiences". It seeks to avoid generalizations and believes every case is unique. The method "describes a particular phenomenon rather than conducting a statistical survey" (Ali, 2017). Case studies, field research, and in-depth interviews are some of the characteristics of a qualitative approach. Compared to the quantitative approach, it does not rely on statistical data to describe and interpret a phenomenon (Du Plooy-Cilliers et al., 2014:148). The disadvantage is that results are only for a specific group which causes issues regarding replicability (De Vaus, 2014). This study will adopt a qualitative research approach.

Table 2: Methodologies: Quantitative vs Qualitative.

Criteria	Quantitative	Qualitative
Purpose	Generalize, test hypotheses, and make predictions.	Understand and interpret social experiences.
Sample size	Large groups, random selection, generalization.	Small groups, not randomly selected, case variations.
Data collection	Number and Statistics.	Word, images
Forms of data collected	Closed and specified collections	Open-ended questions, focus groups, field notes, and participant observation.
Data analysis	Statistical relationships (Deductive)	Themes, patterns (Inductive).
Objectivity vs subjectivity	Neutral, objectivity is critical	Subjectivity is expected
Scientific method	Top-down approach; the researcher starts by formulating hypotheses.	Bottom-up approach: researcher formulates with the data.
Results	Can be applied in other environments	Less applicability in other environments.
Final research	Statistical reports and statistical significance.	Narrative report with contextual description & direct quotations from research participants.

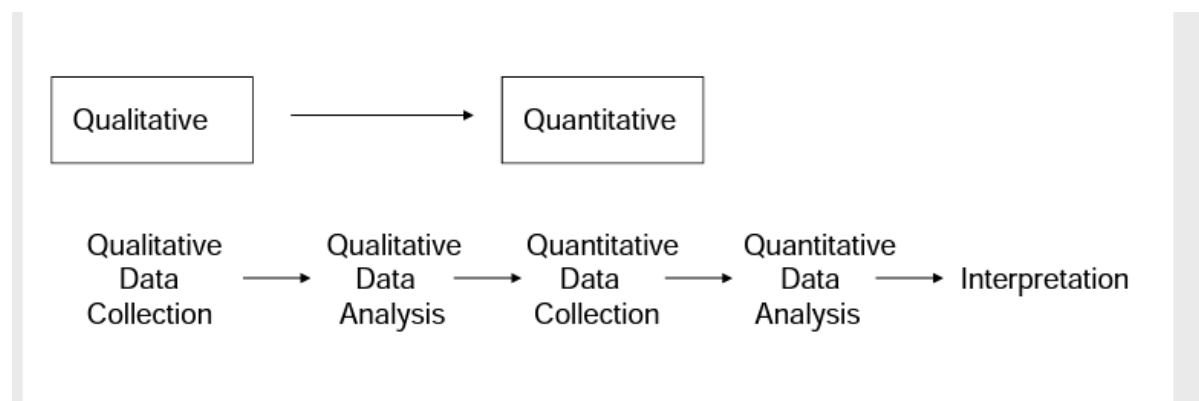
Source: Du Plooy-Cilliers et al (2014); Lichtman (2006:7-8)

Table 2 summarizes the differences and similarities between the two research methods: quantitative and qualitative research.

4.8 Mixed Methods

According to Schoonenboom and Johnson (2017) and Maggetti (2018:4), mixed methods research “is the type of research in which a researcher or team of researchers combine elements of qualitative and quantitative research approaches to study a phenomenon”. This methodology was formed to complement and cater to the increasing complexity of modern research (Tashakkori and Teddlie, 2008:22). “It includes philosophical assumptions to provide directions for collecting and analysing data from multiple sources in a single study” (Dawadi, Giri, and Shrestha, 2021:27). Cresswell and Plato Clark in Malinga (2020:58), state that the process involves the reliance on rigorous testing of a hypothesis, generating results in the form of verbal and numerical data. One of the mixed method strategies by Terrell (2012) is the sequential exploratory strategy; collection, analysis, and interpretation of data using both methods and following up on quantitative results using follow-up interviews to explain results in more detail. The mixed method approach is disadvantageous due to its time-consuming and expensive nature. However, it provides a well-detailed report of a phenomenon.

Figure 4.1: Sequential Exploratory Strategy Characteristics



Source: Terrell (2012:263)

Figure 4.1 provides a mixed-method approach to research. Researchers can choose to adopt both research methods' characteristics. Drawing from the nature of the research problem and the study's objectives, the study will adopt a qualitative methodology deemed relevant.

4.9 Data Collection Methods

According to Kabir (2016:201), “Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypothesis and evaluate outcomes”. Data collection

methods are categorized into two groups- qualitative and quantitative. Qualitative data collection includes observations, in-depth interviews, focus groups, filter search, grounded theory, observation, document review, and case study approach (Elmusharaf, 2012). The quantitative collection includes structured interviews, closed questionnaires, and experiments. (Richmond, 2006:6).

Malinga (2021:60) lists three crucial aspects to ensure the validity and reliability of research results: 1. Validity: quality of research results is based on the truth or being able to be accepted (Cambridge Dictionary). 2. Reliability: the ability of research results to be trusted or believed because of producing the same results (Cambridge Dictionary). 3. Integrity refers to producing accurate results bound by research ethics and refusing to change (Cambridge Dictionary).

4.9.1 Primary Data

“Data that has been collected from first-hand experience is known as primary data” (Du Plooy-Cilliers et al., 2014). Scholars refer to it as “raw material/original data”. The data is gathered from first-hand experience, afresh, happening in the original character. Primary data represents a specific problem by utilizing methods that fit the research problem (Hox and Boeijs, 2005:593). Kabir (2016:204-205) lists primary data sources and argues that they can be limited due to population scarcity or lack of cooperation.

Advantages of primary data: it can also be used as secondary data, and confidential information can be discovered through primary data. It applies to both “qualitative and quantitative research methods”. Hox and Boeijs (2005:594) reiterate the importance of collecting data. They argue that it is advantageous as it provides an independent collection of more accurate and authentic data, but collecting raw data is not cost-effective and is time-consuming.

4.9.2 Secondary Data

“Data collected from a source that has already been published in any form is called secondary data” (Kabir, 2016:205). The data is passed through a statistical process or analysed. It is unpublished but has been collected and used for similar purposes earlier. According to Hox and Boeijs (2005:593), secondary data has five objectives:

1. Describe historical and contemporary features.
2. Offer comparative studies.
3. Raise new questions.
4. Advance the research design and methodology.

5. Educate about existing meanings.

The review of this research's literature is based on secondary data. Secondary provides existing data to researchers to study the relevant issue. It is raw data collected by a different person and utilized by an investigator for another purpose. Secondary data are an abundant resource for researchers (Argyrous, 2009). When it is impossible to conduct a new survey, secondary data becomes essential. Kabir (2016) argues that it is crucial to collect recent data when conducting secondary research. Compared to primary data, it is time-effective. However, the data can be outdated.

4.10 Approach adopted for this Investigation

According to Rush, Halko, Marrett, Cuddihy, Halko, Mobrand, and Spyridakis (2009:1), a desktop research study allows researchers to conduct remoted studies, gathering relevant information depending on the study. Desk research "refers to secondary data that can be collected without fieldwork" (World Food Programme, 2009:47). To most scholars, it suggests collecting reports and publications from libraries (Du Plooy-Cilliers et al., 2014). Secondary data can quickly provide insight into the most effective means of responding to disasters and assisting the affected population (Duze, 2016). Existing information assists researchers in finding better solutions for better outcomes (Seaman and Leather, 2003). The World Food Programme (2009:48) outlines the purpose of a desktop study:

- It provides depth and clarity of the existing data to formulate questions.
- It does not require verification.
- It assists with information verification of data that is outdated.
- It serves as a baseline for understanding changes.
- It updates the primary data collected from previous studies.

4.11 Data Analysis

"Data analysis is the process of bringing order, structure, and meaning to the mass of collected data" (Marshall and Rossman, 1999:150). It is the most mysterious and complex stage of qualitative research (Kiger and Varpio, 2020:1). Qualitative analysis involves summarizing the mass of data collected and presenting the results in a way that communicates the most important features (Martins, 2013:83). According to Martins (2013:82), a researcher uses data analysis to reduce a story and its interpretation.

4.11.1 Thematic Analysis

Thematic analysis is a “qualitative method of identifying, analysing, organizing, describing and reporting themes within a data set” (Maguire and Delahunt, 2017:3352). It enables a researcher to see and make sense of the shared meanings and experiences of the participants. "The researcher follows a pattern to identify a relationship to the particular topic and research question being explored" (Braun and Clarke, 2012:2). Rubin and Rubin (1995) argued that it enables the researcher to analyse data from themes. "It is a clear, uncomplicated and straightforward qualitative study which does not only work with a theoretical base such as discourse analysis or conversational analysis," (Javadi and Zarea, 2016:3). Kiger and Varpio (2020:2) argue that thematic analysis should not be used just because it is an easy-to-follow method of qualitative analysis but should be based on the research objectives. This research will use qualitative thematic analysis to analyse data. Therefore, the study will examine secondary data, government reports, and policy frameworks.

4.12 Data Quality

Qualitative research emphasizes the importance of trustworthiness, which asks, can findings be trusted? (Korstjens and Moser, 2018:121). To ensure reliability, a criterion for “credibility, transferability, dependability, and conformability” must be introduced (Lincoln and Guba, 1985).

- **Credibility-** to ensure credibility, there should be “prolonged engagement, persistent observation, triangulation, and member check” (Korstjens and Moser, 2018:121). Malinga (2021:20), “A researcher should make sure that the data gathered is trustworthy and can be applied in a different field”. It refers to the authenticity of data presented by the researcher (Cope, 2014:89).
- **Dependability-** refers to the consistency of the research findings. “The interpretation should not be based on the researcher’s preferences and viewpoints, but need be grounded in data” (Korstjens and Moser, 2018:122). The researcher must prove logical, traceable, and documented (Tobin and Begley, 2004). To achieve dependability, this research will rely on proper data collection methods. Understanding the disaster management act regarding the COVID-19 policy in South Africa will be necessary.
- **Transferability-** According to Creswell (2008:180), “Transferability is established by providing readers with evidence that the research study’s findings could apply to other

contexts, situations, tries and populations”. Nowell, Norris, White, and Moules (2017:3), the researcher cannot know the sites that may wish to transfer the findings. However, the researcher is responsible for providing in-depth descriptions to benefit those seeking to share results (Cope, 2014:89).

- **Confirmability-** “The researcher’s ability to demonstrate that the data represents the participant’s responses, not the researcher’s biases or viewpoint” (Diane, 2014:89). The degree to which the research findings could be confirmed by another researcher (Korstjens and Moser, 2018:12). White (2016:187) describes confirmability as a “final” essential component of a qualitative study.

4.13 Summary

This chapter has discussed the research methodology and design of the study. Regarding the methodology, this study was conducted as a desktop qualitative research. The data was collected through documentary evidence. Data analysis methods were identified in this chapter, and the study used thematic analysis. Additionally, issues pertaining to validity, credibility, transferability, and confirmability were further elaborated.

CHAPTER 5: CASE STUDY: SOUTH AFRICA

5.1 INTRODUCTION

The previous chapter discussed the research methodology and design. It further discussed how research data was collected. This chapter seeks to analyse and present the data collected to examine the governance of South Africa's COVID-19 policy response according to the Disaster Management Act of 2002. The purpose was to understand the governance perspective of the Disaster Management Act of 2002 since the declaration of the national state of disaster by President Cyril Ramaphosa. It will further discuss the legislative provisions for "disaster management in South Africa", the policy response to COVID-19, the policy governance arrangements for COVID-19, and the challenges experienced.

This chapter presents data gathered mainly from existing literature. The data was collected through fundamental principles of good governance (accountability, transparency, rule of law, and information). The data is analysed through thematic analysis and presented through key thematic areas that address the research problem and respond to the study's objectives. This chapter is divided into two sections: section A will briefly review disaster management in South Africa. Section B will focus on the thematic analysis of the data collected to examine the South African government concerning the Disaster Management Act COVID-19 policy response. A governance theory will closely examine governance practice during a disaster through the following key themes: accessibility, accountability, transparency and openness, efficiency and effectiveness, and capacity. The results were framed according to the World Health Organization guidelines. Specific themes were observed on government websites, assisting the researcher in recording a detailed report of government activities. Specific attributes were observed when analysing data.

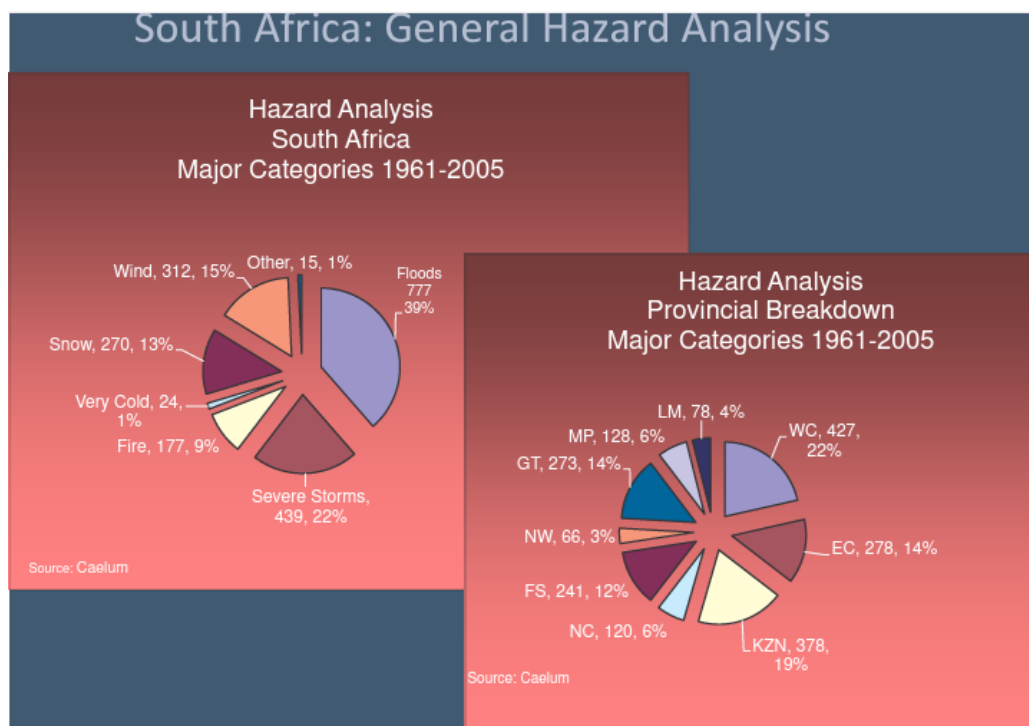
SECTION A

5.2 South African Legal Frameworks for Disaster Management

Pre-1994, South Africa consisted of native laws (Native Service Levy Act 1952, Native Urban Areas Amendment Act 1952, Native Urban Areas Amendment Act 1952/1955, Native Urban Areas Amendment Act 77 of 1957). These laws were argued to have protected people from disaster, but they led to the death of many from unattended townships (South African Government, 2019). Vermaak and van Niekerk (2004:556) state, "South Africa was one of the first countries post-colonialism to legislate disaster management". The end of Apartheid in

1994 and the introduction of a new democratically elected government saw a new constitution drafted. The policy-making and legislative process gradually addressed the inequalities in the Western Cape region, leading to the Green and White Paper on Disaster Management (NDMF, 2005). Trends of flood occurrences in the Southern African Development Community increased; from the year 1984 to 1988=9, 1994 to 1998=26, to 1999 to 2003= 59 occurred (Western Cape government, 2009).

FIGURE 5.1: Hazards in South Africa



Source: Caelum in Western Cape Government (2009).

Figure 5.1 highlights how the number of disasters has increased in 40 years pre-DMA 2002. This study will then discuss local and international legislation pertinent to disaster management. The key legislations are the following:

5.2.1 The Republic of South Africa Constitution of 1996

The Constitution of South Africa holds the government accountable for responding to disasters; it places the legal obligation “to ensure the health and safety of its citizens”. Chapter 2 of the Constitution outlines the Bill of Rights, which binds the three arms (executive, legislative, and judicial) of government and all state organs. Section 27 (1) states everyone has the right to

healthcare services, food and water, and social security. Section 27(2) further emphasizes the state's responsibility to provide these rights. Section 41(1)(b) stresses the government's importance in securing its citizens' well-being. Section 152(1) highlights the role and responsibility of the local government in ensuring a healthy and safe environment. The constitution sections above assist with establishing the understanding of disaster management and the role and responsibility of the government.

5.2.2 Green Paper on Disaster Management 1998

The Green Paper outlines the “possible management strategies that can be pursued to deal with disasters and risks more comprehensively” (Green Paper, 1998). It provided lenses looking into current disaster management approaches by all parties involved. Strategies are revisited with the sole purpose of improvement for future strategy. Disaster management strategies must be revised to cater to new incidents and updated according to international trends but more essentially with the local context.

5.2.3 White Paper on Disaster Management 1999

“The aim is to inform the public and government agencies about the government's objectives and how it seeks to achieve them” (White Paper, 1999). It is essential as it provides critical legislation and policy guidelines for disaster management, involvement of stakeholders, and public participation, outlining disaster response steps and funding provisions. The white paper pursues the constitution's section 41(1)(b) obligation to ensure a safe environment and encourage participation. This policy advocates for a practical approach to disaster reduction that focuses on risk reduction, especially in more vulnerable communities (Viljoen, 2003:4). It moves away from the idea that disasters rarely occur and should only be managed by emergency rescue services and advocates for shared awareness of disaster and necessary preparation to reduce the risk of impact. The capacity to monitor and disperse information on disaster triggers should be improved, such as early warning systems, emergency communications, etc.

The white paper set out several policy proposals:

- Urgently integrate risk reduction strategies into development initiatives.
- Develop strategies to reduce and protect vulnerable citizens from disasters. i.e., poor and disadvantaged communities.

- Introduce new funding systems, ensuring sufficient capacity to navigate the disaster and stability post-recovery.
- The government will introduce and implement a new Disaster Management Act. The act should seek to improve the critical policy objectives from the white paper.

5.2.4 Disaster Management Act Of 2002

This policy was developed as an improvement from the White Paper concerning disaster response (Republic of South Africa, 2002). This act provides "an integrated and coordinated disaster management policy and the establishment of disaster management centres" (Disaster Management, 2002). The act summarizes disaster as a progressive or sudden event that causes or threatens to cause harm to human lives. Disasters cause more damage when the magnitude exceeds the capacity of a community to cope. Sections 20, 33, and 47 support the constitution on the cooperation of three arms of government and guide stakeholders for risk reduction. Coordination is essential within different departments working with disaster management centres.

5.2.4.1 National Disaster Management Centre (NDMC)

The NDMC is established according to section 8 of the Disaster Management Act 2002. According to section 9, "the objective of the national centre is to promote an integrated and coordinated disaster management system, with particular emphasis on prevention and mitigation, by national, provincial, and municipal organs of state and other role-players". Cooperative governance is essential for disaster management and the participation of all stakeholders to increase response capacity and reduce the impact of disasters in national, provincial, and local governments. Duze (2016:85), five key aims:

1. Reducing disaster risk is a local and national priority that will be implemented vigorously from an institutional foundation.
2. Monitoring, assessing, and determining disaster risks to improve early warning signs.
3. Utilizing education, innovation, and knowledge establishes a safety culture.
4. Underlying risk factors limitation.
5. Developing the readiness for disaster by creating all possible levels of response.

5.2.4.2 Provincial Disaster Management Centre

Each of the nine provinces is required to form disaster management centres within the province, which is “aimed at ensuring an integrated and uniform approach to disaster management by all provincial organs of state and provincial statutory functionaries” (DMA, 2002). KwaZulu-Natal COGTA (2022) outlines some of the disaster management functions:

1. Consistency.
2. Disaster management specialization.
3. Integrated and coordinated approach promotion, emphasizing prevention and mitigation.
4. Impending disasters and disaster management in the province.
5. Strengthening disaster management capacity.

5.2.4.3 Municipal Disaster Management Centre (MDMC)

According to section 43(1), it must be established by all districts and metropolitan municipalities. The act states that “local municipalities are not obligated to form disaster management centres but should cooperate with the district municipality”. Section 42 (2)(a) states that “district municipalities should not establish their disaster management centre before consulting the local municipalities”. The local municipality is assigned responsibilities by the national and provincial governments (Constitution Act of 1996). Disaster management is primarily beneficial when locally administered rather than nationally or provincially (South Africa, 2015:45). A draft of NDMF was gazetted in April 2004 (Pelling and Holloway, 2006:22).

5.2.5 The National Disaster Management Framework (NDMF) of 2005

A good addition by the South African Government regarding disaster management resulted from the Disaster Management Act No. 57 of 2002. The NDMF was developed as the DMA Act No. 57 of 2002 and required decentralization of disaster management arrangements across three spheres of government, aiming to build resilience and reduce vulnerability (NDMF, 2005). The framework provides a positive approach to acknowledging various disasters and emphasizes protecting vulnerable communities (Sibanda, 2015:46). Disaster preparedness, prevention, and mitigation form part of its principles. The NDMF seeks to “facilitate South Africa’s cooperation and support in regional and international disaster management” (Republic

of South Africa, 2003:14). Both the NDMF and DMA are one of the best disaster management legislations with some of their concepts being adopted in India (Van Niekerk, 2005:189).

National Disaster Management Framework of 2005 Act provides for:

- An integrated and coordinated risk management policy.
- Establishing disaster management centres across three spheres of government.
- Promoting cooperative governance.
- Disaster risk monitoring and assessments.
- Planning and implementation to inform developmentally oriented approaches, plans, programs, and projects that reduce disaster risks.
- Implementing priorities concerned with disaster response, recovery, and rehabilitation, focusing on providing post-disaster recovery. The state must be prepared to avoid confusion during disasters and have the capacity to ensure proper tool implementation and preparedness for post-disaster.

Table 3: KPA and Enabler

KEY PERFORMANCE AREAS:
1: Establish Institutional capacity
2. Disaster Risk assessment and monitoring
3. Disaster Management Planning and implementation
4. Disaster response and rehabilitation
ENABLERS
1. Establishment of an integrated and comprehensive information system
2. Address disaster management priorities in education, training, public awareness, and research.
3. Funding of disaster risk management

Source: Van Niekerk (2014:860)

Table 3 demonstrates that each KPA and enabler is there to provide guidelines to support the implementation of the framework in all three spheres of government.

SECTION B

5.3 DECLARATION OF COVID-19

According to the African Union (2020), “Coronavirus disease 2019 (COVID-19) is a communicable respiratory disease caused by a new strain of coronavirus that causes illness in humans”. The first outbreak of COVID-19 occurred in “Wuhan, Hubei province, China, on the 31st of December 2019, when the Chinese country office reported a cluster of Pneumonia cases” (WHO,2020). The patients had pneumonia symptoms like fever, malaise, dyspnoea, and dry cough. Before the correct diagnosis, the virus was referred to as “Wuhan Pneumonia due to the symptoms (Lie, Wong, Wong, Wong, and Chong, 2020:886). The World Health Organization reported that the virus belongs to similar known coronaviruses and can be traced from bats,

specifically those of *Rhinolophus* species (WHO, 2020). Certain types of coronavirus outbreaks that have emerged include the “Severe Acute Respiratory Syndrome (SARS-CoV-1) in 2002,” which was identified in 2003, and “Middle East Respiratory Syndrome (MERS) in 2012” (Varga, Flammer, Steiger, Haberecker, Andermatt, Zinkernagel, Mehra, Schuepbach, Ruschitzka, and Moch, 2020:1417). The SARS-CoV-1 appeared in China and was short to be declared a pandemic. Moreno, Wykes, Galderisi, Nordentoft et al (2020). Moreno-Fierros, Garcia-Silva, and Rosales-Mendoza (2020:832) reported that SARS-CoV-1 spread to “29 other countries, causing a near pandemic and killing 813 out of the 8801 people with confirmed cases”. The MERS affected 2494 patients till November 2019 in 27 countries, resulting in 858 deaths (WHO, 2020). When SARS-CoV-2 emerged in 2019, it was deemed more deadly and could stay in the air longer (Varga et al., 2020). There were rumours that the SARS-CoV-2 resulted in laboratory experiments, but sufficient evidence was brought forth to dispute the claims. WHO (2020) argued that if it was true that the pandemic was a lab construct, the genomic sequence would show a mix of unknown elements, but that was not the case. The United States president even referred to COVID-19 as a “China Virus” and demanded the UN Assembly to hold the Chinese government responsible for manufacturing and unleashing a deadly virus (Burki, 2020:1240). Chinese President Xi Jinping urged the nations not to follow speculations but to follow scientific evidence and encourage countries to collaborate and fight the pandemic (Khaliq, 2020).

By the 13th of January 2020, a case out of China was reported in Thailand. The virus spread to other countries quickly, and the World Health Organization declared a public health emergency on the 30th of January 2020 (WHO,2020). Cases rose to more than 118000 in 114 countries, and 4291 people died (WHO, 2020). On the 11th of March 2020, the WHO concluded that COVID-19 could be a pandemic as the number of people dying increased (Liu, Liao, Qian, Yuan, et al., 2020:1320).

Between January and February, the cases seemed to have increased due to the mass migration in China because of the Chinese New Year and holidays globally, such as the USA, Japan, and South Korea. Around the time, China was estimated to have around 3 billion trips over the 40-day new celebration season (Pasley, 2020; Chen, Yang, Yang, Wang, and Bärnighausen, 2020:764). “Around 5 million people left Wuhan before the government's beginning of the travel ban on the 23rd of January 2020, and about a third of those individuals traveled outside of Hubei province” (Chen et al., 2020:764).

The exponential rise of cases meant the Chinese government had to contain the spread and implement necessary measures. Limiting the social movements of individuals was very important. Patients could show no or mild symptoms and conclude it is a common cold. Whether or not a person has symptoms, if infected, they can spread the virus (WHO, 2020). The government introduced policies during the new year holidays to help reduce the spread and decrease social gatherings by postponing, extending school holidays, shutting government offices, etc. Fourteen thousand health checkpoints were established at public transport hubs (Burki, 2020:1240). Large population movements to shopping centres were minimized, with one family member allowed to travel and get necessities. Within a few weeks, 9 million people were tested in Wuhan (Feng, 2020). "The Chinese health ministry established quarantine facilities and built more than 20 centres for noncritical coronavirus patients in Wuhan" (Feng, 2020).

President Xi Jinping argued that the COVID-19 pandemic is a major test of governance capacity and examines the global governance system (Khaliq, 2020). The policy response to the pandemic required the vital capacity of government institutions. As part of governing, each state is responsible for providing political, economic, and social services to its citizens (Shaw, Kim, and Hua, 2020). The disruption of lives by the pandemic needed the government to respond effectively, abide by the rules of governance, practice the rule of law, protect human rights and freedom, enhance transparency and accountability, and participatory democratic governance.

The pandemic declaration required each country's government to prepare itself and have an immediate action plan. Governments needed to form policies that would benefit their citizens. "The pandemic prompted the public policy responses to save lives and economies and protect health care services through various measures" (Mohamed Sayeed, 2020:2). The existence of a pandemic meant that governments needed to respond by setting up different coordination mechanisms at the centre of governments to see through effective pandemic policy response (Kunicova, 2020).

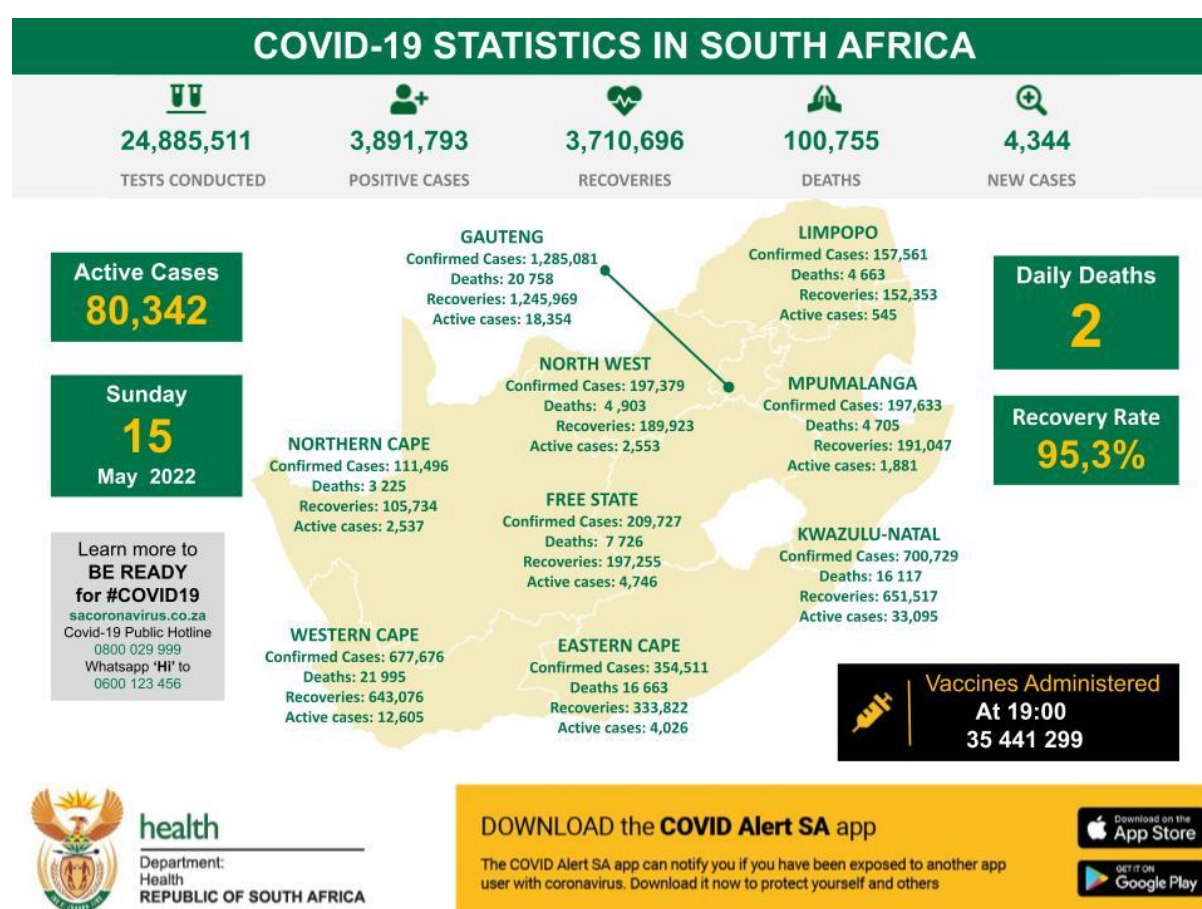
5.4 Case Study: South African COVID-19 Response.

According to Stats SA (2021), South Africa is "estimated to have a population of 60,14 million people, 51.1% being female and approximately 48,9% being male". The population is spread across its nine provinces (Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, Northwest, and Western Cape). Gauteng is the smallest province

geographically, with the Northern Cape being the largest and sparsely populated. According to the World Bank (2020), “South Africa is an upper-middle-income country and the second-largest economy in Africa”. The inequality index rates it as one of the unequal countries in the world in terms of economic distribution.

The healthcare system is divided into public and private sectors. The services in the public healthcare sector are comprised of primary (clinics), secondary (hospitals), and tertiary (academics) health services. The National Department of Health is responsible for developing health-related policies and guidelines, which are then implemented provincially and in districts.

FIGURE 5.2: COVID-19 Stats



Source: SA coronavirus (2022)

Figure 5.2 shows the rapid spread of the COVID-19 virus in South Africa.

After a few cases of COVID-19 were detected, the government declared a national state of disaster. The state of disaster was made possible by the Disaster Management Act of 2002, which states that there must be a cause of death or disease and disruption of life (DMA, 2022). The government aimed to implement a lockdown sooner than other countries. The early

COVID-19 response gave the government time to formulate its health plans. When the president announced the lockdown implementation on the 15th of March, cases were reported to have risen from 61 to 402 (South African Government, 2020)

The declaration of the state of disaster gave the Minister of Cooperative Governance and Traditional Affairs, Mrs. Nkosazana Dlamini-Zuma authority to work together with the government to limit the freedom and rights of South Africans (COGTA, 2020). The minister declared the state of disaster under section 3 of the Disaster Management Act in sections 27(1) and 27(2). Section 27 (1)(b) enables ministers “to declare a national state of disaster if special circumstances warrant the declaration of a national state of disaster”. Section 27(2) regulates the release of national government resources.

The Chief Executive Officer of the South African Human Rights Commission argued that the measures taken are similar to that of a state of emergency (Labuschaigne and Staunton, 2020:2). Staunton, Swanepoel, and Labuschaigne (2020:4) argued that it is different from the 'State of Emergency,' “which can only be declared when the life of the nation is threatened by war, invasion, general insurrection, disorder, natural disaster or other public emergency and the declaration is necessary to restore peace and order”. According to the South African Constitution of 1996 Section, 37(2) “the state of emergency can only hold for a maximum 21 days from the date of declaration unless the National Assembly decides to extend the declaration”. Staunton et al. (2020) argue that the state of emergency is necessary to restore peace and order and is not the first to be used when responding to a health emergency, such as the COVID-19 pandemic. Most of the parliament and the court can validate the declaration of a state of emergency (Labuschaigne and Staunton, 2020). Unlike the state of disaster, the state of emergency has executive power from the constitution, and the state of disaster from the Disaster Management Act 2002. For the national state of disaster, COVID-19 falls within the requirements to declare a state of disaster according to the Disaster Management Act of 2002.

5.4.2 National COVID-19 Command and Control Council (NCCC)

As part of the National Disaster’s response to COVID-19, the national cabinet established “the National COVID-19 Command and Control Council (NCCC) on the 15th of March 2020” for intergovernmental coordination and to take government-wide decisions (Moonasar et al., 2021). The council was established to “lead the nation's plan to contain the spread and mitigate the negative impact of the coronavirus” (South African Government, 2020). The council

comprises 19 cabinet ministers, the Director-General, the Head of the South African National Defence Force Head, and a secretariat (Karim, 2020). The NCCC does not act independently but is informed by scientific evidence (South African Government, 2022).

The NCCC aims “to facilitate and support the implementation of measures to combat the spread of the virus provincially and locally” (SA Government, 2020). Governing structures have been placed at all three levels of government to report to coronavirus command centres about the success and challenges of the government pandemic response. The Ministry of COGTA issued the government gazette No.43147 under the Disaster Management Act 2002 (COGTA, 2020). This gazette provides directions for municipal and provincial command councils for COVID-19 response plans:

Provincially.

- Establish a provincial command council.
- Coordinate between the provincial and national levels.
- Provide resources to enhance the response capacity.
- Monitor impacts by recording regular reports.

Locally.

- Establish a district command council.
- Coordinate between municipal, provincial, and national governments.
- Promote coordinated policies.
- Monitor impacts by recording regular reports in the municipality.

After a week of declaring the COVID-19 pandemic a national disaster, President Ramaphosa on the 23rd of March, announced that NCCC has decided to take South Africa into a nationwide lockdown for 21 days with effect from midnight on Thursday, 26 March to Thursday, 16 April 2020 (Muller, 2021:1). The government quickly responded to the COVID-19 surge as it implemented the lockdown 18 days earlier than Italy and 54 days earlier than the United States (De Villiers, Cerbone and Van Zijl, 2020:799). It was essential to respond quickly as the healthcare capacity of SA would not have been able to cater to large numbers of patients

(Moonasar et al., 2020). The health care department was allowed to develop a surge strategy, and provinces to follow up with the national department. Capacity models were needed to estimate what would be required at the pandemic's peak: hospital beds, quarantine facilities, health officials, and Oxygen (Moonasar et al., 2020:4).

The National Institute for Communicable Diseases, on 16 May 2020, reported that “the mortality rate, 1.8%, remains well below the global average of 6.6%, and our recovery rate of 42.4% remained above the global average of 38%” (NICD, 2020:2-3). The lockdown initiation proved effective as the number of reported cases dropped significantly. There were around 1170 confirmed cases by March 27, and the number of confirmed cases on the 9th of April stood at 1934 (SA Government 2020). The president announced again on the 9th of April 2020 that the NCCC decided to extend the initial lockdown by two weeks.

The South African authorities and health departments introduced a series of restrictions according to the risk-adjusted strategy. According to Moonasar et al. (2021:3), "a risk-adjusted strategy was developed to contain the COVID-19 spread by imposing various economic and social measures". It was introduced to “manage the gradual easing of the lockdown” (South African government, 2020). Level 5: drastic measures to contain the spread of the virus and save lives. Level 4: extreme precautions to limit community transmission and outbreaks while allowing some activities to resume. Level 3: restrictions on many activities, including workplaces, to address the high risk of transmission. Level 2: physical distancing and restrictions on leisure and social activities to prevent a resurgence of the virus. Level 1: most normal activities resume, with precautions and health guidelines always followed. The lockdown allowed essential workers (health workers, emergency personnel, food services, banking, telecommunications, laboratory, etc.) to operate but restricted individual movements unless needing medical assistance, food purchases, social grants, etc. COVID-19 mitigation efforts were strengthened by the health department running awareness campaigns, establishing testing centres, infection prevention and control (IPC), and establishing guidelines for companies having positive employee case monitoring and risk communication (Mbunge, 2020:1810). The Department of Health communicates through digital platforms such as short messaging services (SMS), banners, radio, road campaigns, and television (Mbunge, 2020:1810).

Figure 5.3: Summary of Risk-Adjusted Strategy.



Summary of alert levels				
ALERT LEVEL 5	ALERT LEVEL 4	ALERT LEVEL 3	ALERT LEVEL 2	ALERT LEVEL 1
 OBJECTIVE				
Drastic measures to contain the spread of the virus and save lives.	Extreme precautions to limit community transmission and outbreaks, while allowing some activity to resume.	Restrictions on many activities, including at workplaces and socially, to address a high risk of transmission.	Physical distancing and restrictions on leisure and social activities to prevent a resurgence of the virus.	Most normal activity can resume, with precautions and health guidelines followed at all times. Population prepared for an increase in alert levels if necessary.

Source: The Presidency (2020).

Figure 5.3 provides a summary of the lockdown stages in South Africa as part of the COVID-19 policy response.

5.4.3 Incident Management Team

The Incident Management Team was established for public emergencies on the 30th of January 2020 (Department of Health, 2020:4). “The aim is to create a structured approach for managing public health emergencies” (Department of Health, 2020:4-5). It comprised of provision of medical supplies, facility readiness and leadership, and emergency medical services, amongst others (Moonasar et al., 2021:2). The department developed a surge strategy, and provinces were engaged to align the strategy with specific provincial contexts (Moonasar et al., 2021:3). Investigations were conducted to assess the capacity of the health ministry to respond to the pandemic. The reports showed that to respond to the pandemic, personal protective equipment (PPE), nurses, doctors, oxygen machines, community health care workers, and isolation facilities would be needed (NICD, 2020). The Gauteng Health Department allocated R56

Billion to increase the health ministry capacity (Sonjica, 2001). PPEs at all levels of health care were monitored, and the governance system was established to oversee the PPE and medical supply chain. As corruption occurred, medical equipment supplies faced challenges, and the government gave away tenders to companies at unreasonable prices (Mbandlwa and Netswera, 2020: 1782-1785).

The Public Finance Management Act No.1 of 1999 enabled the government to access the R35 billion in emergency relief in the National Treasury (De Villiers et al., 2020:801). Section 16(1) states that “the minister may authorize the use of funds from the national revenue fund to defray expenditure of an exceptional nature that is currently not provided for”. The funds were released to strengthen institutions responsible for the pandemic response.

A budget of R500 billion relief package was announced on the 21st of April 2020 by President Cyril Ramaphosa by reprioritizing the 2020-21 budget and securing loans (Kings and Tromp, 2020). “These funds aimed to assist vulnerable households through distributing food parcels, releasing unemployment grants, supporting small business and farmers, and procuring personal protective equipment” (BBC 2020). The Auditor-General uncovered corruption and fraud regarding the relief funds. Contracts were granted without proper procedures and strayed to family members (Toyana, 2020). Two people were arrested because PPE tender corruption violated the PFMA Act (Makhafola, 2021). Tsunga, Mazarura, and Heywood (2020) argued that corruption and mismanagement undermined the confidence in the South African government. It was reported that R5 million of unemployment insurance funds intended for 200 workers was paid to one person (Staff Writer, 2020).

Regarding PPE, the government set up specifications and market-related prices. “National Treasury made it a requirement for the public sector institutions to purchase the specified PPE at these prices or less and provided for approval processes if there was no choice but to procure at a higher price” (Auditor-General, 2020:10). The Special Investigation Unit (SIU) released an investigation report. It concluded that 5467 contracts were awarded to 3066 service providers with a total of 14.3 billion, and investigations were finalized concerning 4549 contracts, with 2803 having been discovered to be irregular (Van Diemen, 2022).

5.4.4 Vaccinations

The international community came together under the guidance of the World Health Organization. Global COVID-19 vaccine development and diffusion were rapid as vaccinations were proposed within a year of the pandemic. By 16th December 2020, the WHO (2022) reported: “56 COVID-19 candidate vaccines in the clinical evaluation, with 13 being in Phase III trials and 166 candidate vaccines in preclinical evaluation”. The COVID-19 vaccination development in upper and lower-middle-income countries has been the most rapid in history (Glassman, Kenny, and Yang, 2022:5). Throughout the 21st century, different vaccines were developed against diseases such as yellow fever, TB, Influenza, and pertussis, but the vaccinations for these diseases were limited to achieve rapid vaccination in that period. Ndwandwe and Wiysonge (2021:111) argued that adequate evidence highlights vaccines as the most effective prevention tool. “Efforts to control the COVID-19 pandemic largely depend on the development, acquisition, and administration at large scale of effective vaccines” (WHO, 2022).

For COVID-19, the research, development, and regulatory process took less than a year (Wherry, Jaffee, Warren, D'Souza, and Ribas, 2021:2136). Four vaccines submitted data to the WHO by 16 December 2020 for emergency authority use: Oxford AstraZeneca, Moderna, Pfizer-BioNTech, and Gamaleya (Sputnik V) (WHO, 2022). This resulted due to modern medical advanced knowledge and the nature of the pathogen (WHO, 2020). As discussed previously, COVID-19 is genetically similar to MERS, and scientists have already tried to find a vaccine to counter MERS. Moderna vaccine was approved after 352 days of the surfacing of the virus and began trial within six weeks of the release of the COVID-19 genetic sequence, with trials running from February 24th to November 30th (Glassman et al., 2022:6). “The COVID-19 pandemic saw the simultaneous development of vaccines using different technologies – attenuated mRNA and vector, with other vaccines receiving approval earlier than Moderna” (WHO, 2022). The WHO (2022) argued that “many different COVID-19 vaccines were developed using different technologies because it was not yet known which would be effective and safe”.

5.4.4.1 Sisonke vaccine program

A year after the declaration of the COVID-19 pandemic, the South African government, in February 2021, started a vaccination program called Sisonke (Department of Health, 2021).

Sisonke means “we are together”. It was an implementation study accompanied by the experience of South African scientists and research infrastructure from years of dealing with HIV and Tuberculosis (Kapur, Upshaw, and Wesseler, 2022:1095). South Africa partnered with Janssen pharmaceutical company to administer a single dose of the Johnson & Johnson vaccine to health workers (Janssen, 2021). The program began with approximately 1.25 million healthcare workers (Kapur et al., 2022:1095). The first doses proved effective against COVID-19. The “country secured 11 million doses of the Johnson & Johnson vaccine, with 2.8 million doses delivered in the second quarter and the rest of the year” (South African Government, 2021).

The vaccine rollout was proposed in a three-phase approach that began with the most exposed citizens (South African Government, 2021). Phase 1: “frontline healthcare workers”, Phase 2: “essential workers, persons over 60 years and persons over 18 years with morbidities”, Phase 3: “people over 18 years, which were about 22500000 of the South African population” (South African Government, 2021). Offering the Johnson & Johnson vaccine to health workers enabled South Africa to start vaccinating a vital risk group (Janssen, 2021). “The goal was to vaccinate 67% of the population by the end of 2021” (Janssen, 2021).

De Figueiredo, Simas, Karafillakis, Paterson, and Larson (2020:910) reported that “the vaccination program faced challenges such as supplies, availability, access, and hesitancy”. “Vaccination hesitancy is the delay or refusal of vaccines which is an obstacle to achieving substantial uptake compliance of any new vaccine” (Leigh, Moss, White, Picchio, et al., 2022:4081). The Deputy Minister of Government Communication and Information System revealed the research findings. “About 48% were hesitant compared to other groups and were followed by the coloured population” (South African Government, 2022). The black population was more accepting of being vaccinated. She added that “the population group comprising people aged 18 to 34 were more hesitant towards getting vaccinated than the older age group, which showed that vaccine hesitance decreased with age” (South African Government, 2022). February 7th, 2022, the UJ-HSRC reported that “the level of vaccine hesitancy among those aged 18-24 years has declined by 16 percentage points and by nine percentage points among 25-34 year-olds”.

5.4.4.2 Vaccine Acceleration

“The South African government secured enough COVID-19 vaccines to vaccinate at least 40 million people by December 2021” (South African Government, 2021). The South African Health Regulatory Authority (SAHPRA) “reduced the time taken to register COVID-19 vaccines to less than three months where the required standard of data is available while continuing to adhere to strict guidelines to ensure the safety of South Africans” (SAHPRA, 2021). According to the Medicines and Related Substances Act, SAHPRA, as an independent body, approves new medicine for up to 20 months (SAHPRA, 2021). For a quick response to the pandemic, the organization increased the workforce and reduced the approval time to 90 days on average, depending on the available data (SAHPRA, 2021). By July 2021, SAPHRA had already authorized three COVID-19 vaccines: AstraZeneca, Pfizer, and Johnson & Johnson, with Sinovac in the advanced application stages (SAHPRA, 2021). “The safety and efficacy of the vaccines used in the national vaccine rollout have been endorsed by the national regulatory authority, SAPHRA” (Katoto, Parker, Coulson, Pillay, et al., 2022:2).

5.4.5 Transitional Measures

Guided by scientific research, the Department of Health Minister, Joe Phahla, announced that the national disaster state will remain until the 4th of April 2022 (South African Government, 2022). President Cyril Ramaphosa, in his speech, mentioned that out of 108000 regular beds, COVID-19 patients currently occupy 1805, with 175 patients occupying ICU beds out of available 5600 in the country (SA CORONAVIRUS, 2022). The pandemic has not ended, but the strict regulations according to Disaster Management did not require that the country remains in the National State of Disaster. The government needed to formulate a strategy that would prevent a surge of COVID-19 infections. Disaster Management Act Regulations: Transitional measures from 4 April to 3 May 2022 outlined regulations covering gatherings, mandatory protocols in public spaces, partial re-opening of borders, and a COVID-19 vaccine injury No-fault compensation scheme (South African Government, 2022).

Transitional measures consisted of removing the ban on outdoor public spaces without wearing a mask but still upholding the importance of maintaining a social distance of 1 Meter. Indoor gatherings are only allowed if fully vaccinated persons possess valid vaccination certificates and the unvaccinated possess the negative COVID-19 test for no more than 72 hours. Both do

not occupy more than 50% of the venue's capacity. Like indoor events, outdoor capacity must be 50% and maintain social distancing (South African Government, 2022).

On June 23rd, the minister of Health revoked the COVID-19 regulations (SA Coronavirus, 2022). On this date, the National Institute for Communicable Diseases reported 1050 new cases, which brought the total number of laboratory-confirmed cases to 3,990,057” (NICD, 2022). The National Department of Health reported seven deaths, with five deaths occurring within the past 24 to 48 hours” (Department of Health, 2022). By mid-June 2022, the pandemic subsided. There was a decline in hospitalization, a decline in reproductive numbers, a decline in positive cases, and a decline in daily reported cases. “The government concluded that the peak infection which was concluded was a limited 5th wave driven by sub-variants and not a new variant of concern was dissipating and that there was no further potential risk” (South African Government, 2022). The NCCC and the Department of Health agreed to lift regulations: limitation of gatherings, vaccination proof or PCR negative tests at ports of entry, and wearing of masks indoors (Department of Health, 2022). Employees were still required to perform their duties while wearing masks (Department of Employment and Labour, 2022).

5.5 E-Government

The COVID-19 surge has made countries realize that they need convenient, transparent, and efficient governments faster. Electronic governance/government refers “to governing with the help of electronic tools” (Bernhard, 2013:19). These electronic tools are services on the internet and other communication technologies. In addition to websites, it includes non-internet communication tools; short message service (SMS), radio, television, Multimedia messaging service (MMS), email, etc. (Matsieli, 2020:16). The existence of government websites has proven to be necessary during the pandemic and for the benefit of the research. There are multiple definitions of e-government/governance. According to Heeks (2003:2), e-government is “all use of digital information technology in the public sector”. Fang (2002:1) defined e-government “as a way for governments to use the most innovative information and communication technologies, particularly web-based internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and provide greater opportunities to participate in democratic institutions and processes”. Drew and AlGamdi (2012) summarize e-government as using primarily internet-based information technology to enhance the accountability and

performance of government activities. It is motivated by the need to bridge the gap between government and citizens (Howard, 2001).

Matsieli (2020:16), data collected “can be coded and analysed under seven rubrics: visibility and availability, accessibility, transparency and openness, usability, interactivity, transactional services, and connected government.” All parties needed to come together during the state of disaster. The progress reports of the policies implemented were essential to citizens. Some national departments provided information about the Disaster Management Act’s progress.

TABLE 4: Accessible Information

No	Department of	Website	Operating	Non-operating
1	Cooperative Governance and Traditional Affairs.	https://www.cogta.gov.za/	Yes	
2	Health	https://www.health.gov.za/	Yes	
3	Employment and Labour	https://www.labour.gov.za/	Yes	
4	Public Works and Infrastructure	http://www.publicworks.gov.za/	Yes	
5	Communications and Digital Technology	https://www.dcdt.gov.za/	Yes	
6	Tourism	https://www.tourism.gov.za/Pages/home.aspx	Yes	
7	Arts and Culture	http://www.dac.gov.za/	Yes	
8	Defence	http://www.dod.mil.za/	Yes	
9	Energy	http://www.energy.gov.za/	Yes	
10	Education	https://www.education.gov.za/	Yes	

11	International Relations and Foreign Affairs	http://www.dirco.gov.za/ .	Yes	
12	Social Development	https://www.dsd.gov.za/ .	Yes	
13	South African Police Service	https://www.saps.gov.za/ .	Yes	
14	Statistics South Africa	https://www.statssa.gov.za/ .	Yes	
15	The Presidency	https://www.thepresidency.gov.za/ .	Yes	
16	Human settlement	http://www.dhs.gov.za/ .	Yes	
17	National Institute for Communicable Diseases	https://www.nicd.ac.za/ .	Yes	
18	SA Coronavirus	https://sacoronavirus.co.za/ .	Yes	

Source: South African Government (2022); Department of Health (2022); NICD (2021).

Table 4 above consists of government websites available for accessible information regarding the COVID-19 policy response.

5.6 Accessibility

The data analysis evidence has highlighted that government websites have been accessible to the public. The websites were designed to create easier access for the public to receive updates, involving them for information consumption and participation in governance affairs. (United Nations, 2020), stated that the COVID-19 pandemic requires governments to strengthen communication tools to motivate public participation. A good government is measured by its commitment to ensuring that all its citizens have an opportunity to play a part in its life and that none are excluded (Galster, 2018). Mutula and Mostert (2010) argued that information accessibility assists the public in accessing information about current national affairs, enabling them to access the services necessary to deal with the incident. It suggests that “whereas accessibility’s goal is to enhance greater access to information on the website, the site brands

itself as a “great equalizer,” cutting across social boundaries and breaking down both geographical and personal barriers” (Matsieli, 2020:91). The public could assess the governance track of the disaster management.

Accessibility could be displayed from available information and the government making funds available to strengthen the policy response. As discussed in this chapter, the National Treasury allocated R35 Billion according to the Public Finance Management of 1999 and Disaster Management Act of 2002 (De Villiers et al., 2020:801). The two legislations support emergency response when a life-threatening event has occurred. Their main aim is to protect the population and make essential services available. The funds strengthened institutions tasked with the pandemic response. The financial budget for the 20/21 year was reviewed for possible funds allocation for the pandemic response. A portion of the R500 Billion relief package announced by the president was drawn from the South African financial budget (Auditor-General, 2020). “These funds aimed to assist vulnerable households, issue food parcels and unemployment grants, support small businesses and farmers, and procure personal protective equipment” (BBC, 2020).

FIGURE:5.4 Distribution of the COVID-19 stimulus package.

<i>Category</i>	<i>In billion rands (R)</i>
Loan guarantee scheme	200
Job protection and creation	100
Tax relief	70
Social grants	50
Unemployment Insurance Fund	40
covid-19 capacity	20
Municipalities	20

Source: The Presidency (2020a), Khambule (2021)

Figure 5.4 highlights how the R500 Billion COVID-19 stimulus package was allocated to all departments to foster an effective policy response.

5.7 Accountability

Accountability has experienced many challenges. The COVID-19 crisis meant governments had to outsource funds, including foreign aid, and establish proper infrastructures, goods, and

services. UNDP (2020:4) states that the pandemic opened an opportunity for countries to abuse power and funds. The sudden financial assistance led to corruption risks throughout government departments, from fund allocations to social service to the qualification of beneficiaries, to qualifications of those allocated tenders, to the identification of recipients, and to the management response for transferring funds to recipients (WHO, 2020). During the hard lockdown, South Africa's state of national disaster allowed employers and employees to receive financial assistance (Mkentane, 2022). It proved challenging as corruption and fraud played a huge role and led to the mismanagement of funds (Vaughn, 2021). The Temporary Employer/Employee Relief Scheme (TERS) was established in 2020 to support those in formal employment with a threat of losing their source of income due to the pandemic (South African Government, 2020). Mkentane (2022), the Employment and Labour Minister, Thulas Nxesi, admitted that it exposed the South African government's lack of capacity regarding relief funding to support employers and employees.

There must be a domestic accountability cycle whereby public officials can give an account of public resource and expenditure management. United Nations (2014:4-6) offers ways in which legislatures can prioritize the eradication of corruption during the pandemic. It is argued to increase the capacity of a government's pandemic response (WHO, 2020).

5.7.1 Monitoring of Public Debt:

Most third-world countries have struggled to respond effectively to the pandemic, so they received funding through foreign aid/loans from international financial institutions. These countries are already behind in paying their already existing debts which threatens the country's pursuit of the Sustainable Development Goals (SDGs) (United Nations, 2014:5). South Africa's government, on top of outsourcing funds from internal sources, borrowed money from the World Bank and International Monetary fund, BRICS New Development Bank and African Development Bank (Presidential Address, 2020). Some financial institutions formed financial schemes to assist countries with economic responses. The UN suggests that government financial institutions must establish committees to monitor public debt and the borrowing and lending process with any debt-management framework (UN, 2020).

“All budgetary spending during the pandemic should be subject to parliamentary authorization, whether ex-ante or ex-post” (United Nations, 2014:5). The parliament should scrutinize spending proposals to ensure compliance and accountability for emergency expenditures (UN, 2014). It ensures that policies effectively serve their beneficiaries.

“Legislators should be aware of the use of emergency public spending, procurement, contracting, and appointments and, where irregularities are found, hold the responsible agencies to account” (UN, 2014). President Cyril Ramaphosa authorized an investigation after hearsay about the corruption and fraud of the COVID-19 economic response. Investigators found that more than R2 Billion in contracts were flagged for corruption (Winning, 2020). The president was criticized as arrests were primarily made on low-profile officials. High officials that were accused of fraud and corruption were told to resign and open themselves up for investigation (BBC, 2020). BBC (2020) further reported that South Africans were unhappy as they expected the president to act decisively, have public officials put to trial, and face possible arrest.

5.8 Transparency and Openness

Good governance practices were adhered to in line with the third and fourth objectives. Transparency means that “information is freely available and directly accessible to those affected by such decisions and their enforcement” (Weiss and Steiner, 2006:1533). The pandemic proved to be when governments needed to be transparent, responsive, and accountable to the people they seek to protect (United Nations, 2020:3). The government needs to engage with the public, offering information and making certain false information is identified. In South Africa, much fake news spread over social media, mentioning that COVID-19 was manufactured, and the government is just looking to suppress the public with a fabricated pandemic. The government took it upon itself to put out false information, as it could potentially expose people to the virus (South African Government, 2020). “A 55-year-old man was arrested for circulating misleading videos about COVID-19 test kits” (South African Government, 2020). Government communication (GCIS) collaborated with social media platforms to curb disinformation about the pandemic (South African Government, 2020).

The active websites and publishing of information/progress about the department’s commitment showed the government’s dedication to being more transparent about its operations and functioning. The organizations that were established as part of the COVID-19 response were active in updating the public. The health department ensured that the National Coronavirus Command Council had statistics on the number of infected, healed, and deceased. The feature of good governance practices is the free flow of information. The South African media outlet (SABC) and other private entities worked together to provide information. Cloete, Maassen, Fehnel, Moja, Gibbon, and Perold (2006) argued that collaboration between the

private and public sectors benefits good governance. Weiss and Steiner (2006:1533) argued that enough information should be provided, and it should be provided efficiently and understandably. Good governance scholars advise that it is essential for researchers to not only look at transparency being access to information, but a report's accuracy should also be tested (Cloete, 2008).

The government needs to be transparent with the availability of public resources, public health, and relief measures (United Nations, 2014:4). Government reports should also be published, official epidemiological data by the official research team, and communication of risks. The public must know about proposed policy responses to tackle the pandemic, progress, and failure of policies. The South African government was commended for publishing its research on 24th November 2021 about the Omicron variant to WHO (BBC, 2021). The history of HIV and TB has contributed to the research infrastructure that has made South Africa capable of detecting new variants (WHO,2020). This occurred even when the country and its region were prone to be posed with extreme measures. Countries like the UK, USA, Canada, and Australia banned travel from Southern Africa because of the new variant (BBC, 2021).

The Disaster Management Act was critiqued and seen as irrational by political opposition on many occasions. The progress was under-reported when the minister argued that “it was for the safety of citizens that some statistics are not reported” (Kapur et al., 2022). The government’s transparency and openness were questioned when the mismanagement of COVID-19 funds happened. Many companies awarded tenders by the governments were not qualified, experienced, and had no history of supplying PPEs. Many companies had been recently established upon issuing the contract. These corruption schemes have been illegal and reckless, risking the governance principles and patients’ and health officials’ lives.

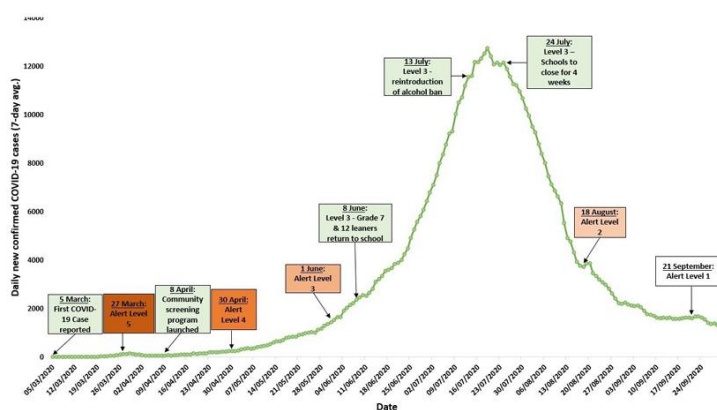
5.9 Efficiency and Effectiveness

In line with the second objective, disaster management has shown effectiveness. The drastic impact of the pandemic was delayed as intended by the declaration. NICD (2020) on May 16th reported that the South African recovery rate was 42.4%, above the global average of 38%, and the mortality rate of 1.8%, below the 6.6% global average. Besides South Africa being classified as a third-world country, its policy response showed effectiveness, surpassing those of some first-world countries. The early lockdown initiation proved effective as reported cases slowed down significantly. “Despite the early interventions initiated to curb the spread of COVID-19 in South Africa, an exponential increase in COVID-19 cases was experienced”

(South African Government, 2021). Moonasar et al. (2021) argued the government's programs proved effective and efficient. Still, the rapid rise in cases resulted from poor adherence to guidelines- high consumption of alcohol and other socioeconomic factors (high population density, poor service delivery, lack of water and sanitation, etc.

FIGURE:5.5 Lockdown Effectiveness

The country experienced fluctuations in infections as lockdown measures were lifted. Figure 5.5 below showcases key milestones during the pandemic.



Source: Moonasar et al (2021)

5.10 Capacity

Capacity should be included when effectiveness is being discussed. Disaster management gave the government time to build the health system's capacity. The government formed plans that would be required during the pandemic's peak. The projects included estimates of hospital beds, nurses, doctors, isolation facilities, medical equipment, and oxygens that would be required. Funding was made available by the Gauteng Health Department, allocating R56 Billion to increase the health ministry's capacity (Sonjica, 2001). The health department hosted a training session for health officials to provide efficient knowledge of COVID-19 patients. Health facilities were equipped with the required materials. "The supply of oxygen was scaled up to align with the projected bed utilization, and quarantine facilities were constructed" (Department of Health, 2021). In July 2021, "temporary beds were added to some hospitals across the country to increase capacity for daily admissions" (SACORONAVIRUS, 2021). Increasing healthcare resources was after South Africa saw an increase in infections, resulting in the health capacity falling short with both non-COVID-19 and COVID-19 patients. The

Department of Health’s strategy was to provide temporary beds across hospitals and increase the number of COVID-19 field hospital beds.

Figure: 5.6 Cape Town International Convention Centre Intermediate Care Bed Facility Layout

This facility was designed “to serve and provide treatment, rehabilitation, disease monitoring, referral, and palliative care for patients with COVID-19” (Bulajic, Ekambaram, Saunders, et al., 2021:2).



Source: Bulajic, Ekambaram, Saunders et al (2021:2)

5.11 Summary

This chapter focused on two aspects of the study, data presentation, and analysis. The data was analysed through thematic analysis, as explained in chapter four. The themes were derived in line with sound governance principles (accountability, transparency, accessibility, openness, capacity) emerging from secondary material. The relevant data was presented according to the key objectives and answered the study's research problem. The findings have exposed the challenges and successes of governance during the COVID-19 policy response. Even with the challenges, the government, through the Disaster Management Act of 2002, responded to COVID-19 and was commended by the international community.

Chapter 6: Recommendations and Conclusion

6.1 The study was conducted to investigate the COVID-19 disaster management policy response within South Africa through a governance perspective. This recommendation and conclusion chapter summarizes the five previous chapters and further proposes various disaster management recommendations.

The first chapter introduced the background and overview of the study. It briefly discussed disaster management in South Africa. It also provided the study contribution, conceptual framework, research methodology, research objectives, and questions it seeks to answer. Chapter two began by providing an in-depth understanding of the concept of public policy and the five stages of a policy process. It further discussed the concept of good governance. Chapter three provided relevant literature discussing the depth of disaster management and international disaster risk reduction policies. Chapter four discussed the research methodology that guided the study to investigate the Disaster Management Act of 2002 as a response to the COVID-19 pandemic. It gave insight into different research methodologies and the one selected for the study. Chapter five analysed and presented the secondary data collected for the study.

6.2 Main questions that were asked by the study: What are the legislative provisions for disaster management in South Africa? What was the policy response to COVID-19? What were policy governance arrangements for COVID-19? What challenges were experienced, and how could policy governance arrangements be changed to enhance their effectiveness in the future?

6.2.1 What are the legislative provisions for disaster management in South Africa?

Post-Apartheid South Africa saw legislative improvements that aimed at reforming disaster management. Anchored by the new Constitution of 1996, aiming at protecting lives and providing services to the vulnerable, disaster management legislation was developed. It included the “Green and White Paper on Disaster Management”. These were developed during the United Nations Decade of Disaster Risk Reduction, which provided a platform for improving and developing legislation in the 2000s.

With a commitment to reduce the disaster impact on the vulnerable, the Disaster Management Act No.57 of 2002 was developed and implemented on 15 January 2003. The legislation was consistent with the international trends for disaster management. The Disaster Management Act (DMA) No.57 of 2002 aims “to provide a policy that focuses on systematic coordination and integration of measures and practices that seek to prevent and mitigate the risk of

occurrence and disaster impact” (Disaster Management Act, 2002). The DMA highlights the “importance of disaster preparedness, rapid and effective response to disasters, and post-disaster recovery”. It provides guidelines for national, provincial, and municipal disaster management response. The DMA cooperates with other previously enacted legislation in response to disasters, such as the Public Finance Management Act, 1999 (PFM), which enables the provision of funds nationally, provincially, and locally.

6.2.2 What was the policy response to COVID-19?

With a few reported cases, President Cyril Ramaphosa declared a national state of disaster which was made possible by the Disaster Management Act. The COVID-19 pandemic passed as a cause of death, disease, and life disruption, triggering the Act. The country responded early and imposed a nationwide lockdown to limit the spread of the virus. It was vital as the healthcare capacity would have struggled to cater to the large influx of patients. Therefore, the health department was offered a chance to develop a surge strategy, and provinces to follow up with the national department. The government developed a risk-adjusted strategy that aligned the five levels with the intensity of transmission – level five being the highest number of reported infections and measure of nationwide lockdown. Response models were developed to estimate the capacity required at the pandemic's peak. These estimates included the number of doctors, community healthcare workers, quarantine facilities, testing centres, hospital beds, nurses, medical equipment, and oxygen that would be required.

The early implementation of the COVID-19 policy response proved effective as cases of the mortality rate remained below the global average and the recovery rate above the global average. The risk-adjusted lockdown assisted with curbing the number of cases and tracking human transmissions.

6.2.3 What were policy governance arrangements for COVID-19?

Good governance proved more critical than ever during the COVID-19 pandemic, with repercussions on social, health, and economic life. Policy governance arrangements have played a significant role in countries' COVID-19 response and will continue to be essential for recovery and rehabilitation. Clearly outlined policies were needed to highlight intended outcomes and cost-benefit and drafted relevant policies to minimize the pandemic. Though accused of poor accountability, COVID-19 policies were made public with their aims and goals. Additionally, statistics were provided frequently.

6.2.4 What challenges were experienced, and how could policy governance arrangements be changed to enhance their effectiveness in the future?

The policy implementation was challenged by corruption from government officials. With a lack of financial capacity, corrupt policy officials rendered the response further vulnerable. A fraction of South Africa's COVID-19 budget came from international organizations to enhance capacity. There were inefficiencies as funds were misused in cases such as UIF recipients not receiving their money, overallocation of funds, and unreasonably high prices. Inadequate finances were shown in the lack of Personal Protective Equipment (PPEs), sponsoring more health workers, capacity building programs, and service delivery.

The lack of accountability questioned the promotion of governance by the ruling government, and the lack of commitment elevated the corrupt over the rule of law as, in most cases, fewer arrests were made, allowing only a few to benefit from poor governance practices.

6.3 Recommendations

The international community recommended the early COVID-19 response by South Africa as it successfully delayed the virus. The policy response saw dire governance challenges from policy officials, which impacted the total success of the policy response. Accountability and transparency form a primary relationship with policy success, which was unachieved in South Africa. COVID-19 highlighted challenges of good governance as the country suffered from a lack of accountability and the rule of law. South Africa has various regulations, protocols, and reporting frameworks that seek to hold the public accountable. However, these procedures were often ignored, with less or no consequences for the accused.

Accountability and transparency are essential to disaster management as they include mechanisms where public officials are responsible for their actions, use of public resources, and government transparency. Accountability forms an integral part of disaster risk governance. Financial accountability is essential to eliminate corruption and satisfy disaster victims' needs. The lack of accountability in the government and private sector tends to magnify the human costs of disaster. Finding ways to guarantee accountability is essential, which may include incentives and penalties.

Trust in government during COVID-19 has shown that citizens have less faith in governments as governments sought to influence citizen trust and accelerate efforts to strengthen state-society relations and citizen engagement. There has been a longer trend of low trust in

government from 2013-2018, provided by the Human Sciences Research Council (HSRC), showing consistently low confidence in government overall. Corruption during COVID-19 enlarged the low trust citizens possessed in their government. Lack of trust in the government was evident in youth when vaccinations were rolled out, and there was vaccine hesitancy. People are less likely to accept pandemic-related restrictions and take the necessary precautions when they trust that the government practices good governance. The poor distribution of PPE is another factor that highlighted the government's poor performance and accountability, which led to more distrust, leaving the government's COVID-19 policy response vulnerable. The misuse of PPE money during the COVID-19 pandemic hindered the implementation of a programme designed to accelerate the pandemic response and improve the health capacity to curb the spread of the virus in South Africa. To enhance the trust in government, public officials should strictly follow the governance rules.

Service delivery is hindered when the government intentionally hides information. It was evident through the lack of shelter for the vulnerable, lost PPEs, poorly distributed food, etc. The government should apply the principle of effectiveness and efficiency to improve its services, and the decisions made should have consequences. Department heads lack accountability and often assign the responsibility for wrongs to their subordinates. Policy bodies that are tasked with implementation should be held accountable for the inability to carry out a policy successfully. Implementation challenges should be immediately reported to those in charge, and consequences should follow if they are not reported.

The justice department should exercise the full might of the law and hold elected representatives accountable for their misconduct. The disproportionate punishment to no consequences promotes the practice of bad governance. Government officials often change positions and departments after misconduct, indicating a lack of respect for sound governance principles. Impunities are openly rewarded, recycling corruption from one department to another.

6.4 Limitations of the Study

This study has identified and acknowledged the secondary data limitation in the report. However, the study limitations do not compromise the results of this research study. A qualitative research approach was adopted for the study, utilizing secondary data as primary sources, such as government officials could not probably reveal their perspective on Disaster

Management. Previous research, journals, government publications, and non-governmental publications might have some extent of bias. The study was conducted during a particular timeframe, which may result in excluding some essential information and the inability to describe change over time.

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