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KWAZULU-NATAL**

**INYUVESI
YAKWAZULU-NATALI**

**Public Policy and KwaZulu-Natal's Integrated Poverty
Eradication Programme: A Complexity Perspective**

by

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i

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DECLARATION

I, **Frederick Matthews Dumisani Xaba** declare that:

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- ii) This dissertation has not been submitted for any other degree or examination at another university.
- iii) This dissertation does not contain other people's data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other people.
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ABSTRACT

Issues of poverty and inequality are central to ordinary people and policy makers all over the world. The growing gap between rich and poor galvanized countries through the United Nations to adopt the Millennium Development Goals (MDGs) in 2000, and more recently the Sustainable Development Goals (SDGs) in 2015. Part of the challenge in achieving the goals as set out in the MDGs and SDGs is that poverty is a complex phenomenon. Policy makers, politicians, scholars, development practitioners all have divergent views on the definition of poverty. Defining poverty is a very contentious undertaking that is influenced by a variety of perspectives and settings. These divergent perspectives serve to underscore the very complex and multi-dimensional nature of poverty. Implementation of a complex public programme such as a poverty eradication programme requires a departure from conventional linear approaches to policy implementation.

The objectives of the study were to explore and reconstruct the narrative that informed the thinking of the KwaZulu-Natal Provincial Administration in developing the Poverty Eradication Master Plan (2014) and the implementation thereof, from a complexity theory point of view; to delineate and describe how the selected national, the different provincial departments, state-owned enterprises were brought together to pursue a common mandate through a network of relationships, and to use the complexity theory to define poverty and illustrate the complex challenges experienced during the development of the KwaZulu-Natal Poverty Eradication Programme. The findings of the study revealed that the development of the Poverty Eradication Programme faced tough challenges due to the contestation of the policy space, the conceptual approach, the mandates and resources by the different agents involved. The implementation thereof, while fully integrated into the annual plans of implementing departments, faces enormously complex challenges. Given these issues, the study recommends a systems approach to the implementation of the Poverty Eradication Master Plan, taking into cognizance the complex nature of the problem and the vertical and horizontal integration across government.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
DECLARATION.....	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
LIST OF APPENDIXES.....	xiii
CHAPTER 1 : INTRODUCTION TO THE RESEARCH.....	1
1.1 Introduction	1
1.2 Purpose of the study	1
1.3 Objectives of the research	2
1.4 Questions for the research.....	2
1.5 An outline of the study.....	3
1.5.1 Theoretical reflections.....	3
1.5.1.1 Complexity theory	3
1.5.1.2 Complex adaptive systems	4
1.5.1.3 Non-linearity.....	4
1.5.1.4 Systems thinking approaches	4
1.5.1.5 Feedback loops, prediction and control.....	5

1.5.1.6	Societal learning and change.....	5
1.5.1.7	Public policy	6
1.6	An approach to the study	6
1.6.1	Methodology.....	6
1.6.2	Data collection.....	7
1.7	Data analysis and interpretation.....	8
1.7.1	Limitations of the study.....	8
1.8	Conclusion	9
CHAPTER 2 : SITUATIONAL ANALYSIS AND THE CONTEXT OF POVERTY		10
2.1	Introduction	10
2.1.1	Global context.....	10
2.2	National context	12
2.2.1	Income levels nationally.....	13
2.2.2	Household food security	15
2.3	Provincial context.....	16
2.3.1	Population per District Municipality and Durban Metro.....	16
2.3.2	Poverty in relation to income levels per District Municipality.....	19
2.4	Conclusion	20
CHAPTER 3 : LITERATURE REVIEW.....		21
3.1	Introduction	21
3.2	Defining poverty	22
3.3	Complexity theory	28

3.4	Complex adaptive systems	31
3.5	Systems thinking theory	33
3.6	Feedback loops, prediction and control.....	35
3.7	Societal learning and change	36
3.8	Public policy and co-ordination.....	37
3.9	Conclusion	43
CHAPTER 4 : RESEARCH METHODOLOGY		44
4.1	Introduction	44
4.2	Approach to the study	45
4.3	Area of research.....	45
4.4	Population	46
4.5	Sampling	46
4.6	Research design	48
4.7	Research methods	48
4.8	Data Collection.....	50
4.8.1	Phase One: Document study.....	50
4.8.2	Phase Two: Semi-structured interviews.....	51
4.8.3	Phase Three: Observation.....	54
4.9	Data analysis.....	54
4.10	Ethical issues	55
4.11	Limitations.....	56
4.12	Conclusion	56

CHAPTER 5 : DATA ANALYSIS AND FINDINGS.....	57
5.1 Introduction	57
5.2 Data collection.....	57
5.3 Data analysis.....	58
5.4 Findings	59
5.4.1 CATWOE as a Soft Systems Methodology.....	59
5.4.2 Application of CATWOE as Soft Systems Methodology	61
5.5 The rich picture	65
5.6 Causal loops	69
5.7 The Poverty Eradication Programme Master Plan Pillars	72
5.8 Population estimates by population group and by gender in 2014.....	79
5.9 Population estimates per province by number and percentage	80
5.10 Main sources of income for households per province in 2014	81
5.11 Provincial Social grants beneficiaries per household and per individual ..	82
5.12 Household food adequacy and inadequacy per province in 2014.....	83
5.13 Conclusion	87
CHAPTER 6 : CONCLUSION AND RECOMMENDATIONS.....	88
6.1 Introduction	88
6.2 Revisiting the aims and objectives of the study.....	88
6.2.1 Summary of responses to the research questions.....	89
6.2.1.1 What were the complexities in the processes followed in developing the Poverty Eradication Master Plan in the Province of KwaZulu-Natal?	89

6.2.1.2	In the context of the complex public policy, what are the institutional arrangements and mechanisms that co-ordinate the Poverty Eradication Programme?.....	90
6.2.1.3	Is the Poverty Eradication Programme is part of the 2015/2020 Strategic Plans of departments?.....	91
6.3	Emerging issues from the study.....	91
6.3.1	Multiplicity of Poverty Eradication Programmes.....	91
6.3.1.1	Implications.....	92
6.3.1.2	Recommendations.....	92
6.3.2	Partnerships through societal learning and change.....	93
6.3.2.1	Implications.....	93
6.3.2.2	Recommendation.....	94
6.3.3	Complex adaptive system.....	94
6.3.3.1	Implications.....	95
6.3.3.2	Recommendations.....	95
6.3.4	Environmental analysis, feedback loops, prediction and control.....	95
6.3.4.1	Implications.....	96
6.3.4.2	Recommendation.....	96
6.3.5	Predictable, non-predictable, linear and non-linear policy process.....	97
6.3.5.1	Implications.....	97
6.3.5.2	Recommendations.....	97
6.3.6	Vertical, horizontal, hierarchical and spatial complexity.....	98
6.3.6.1	Implications.....	99

6.3.6.2 Recommendations	99
6.4 Conclusion	100
REFERENCE LIST.....	102
APPENDIXES	118

LIST OF TABLES

Table 2.1: Population distribution per District Municipality	17
Table 4. 2: Topics to be covered	53
Table 5.1: Assessment of Strategic Plans (2015-2019)	75
Table 5.2: Population estimates by population group and gender, 2014.....	80
Table 5.3: Population estimates per province, 2015	80

LIST OF FIGURES

Figure 2.1: Types of income per province	15
Figure 2.2: Household food security levels per province	16
Figure 2.3: Multiple Deprivation Index Score per Local Municipality	18
Figure 2.4: Income levels per District Municipality	19
Figure 5.1: The CATWOE model of analysis.....	60
Figure 5.2: Rich picture government system	67
Figure 5.3: Rich picture causal loops	70
Figure 5.4: KwaZulu-Natal Poverty Eradication Master Plan Strategic Pillars.....	73
Figure 5.5: Sources of income per province, 2014.....	82
Figure 5.6: Levels of social grant recipients per province.....	83
Figure 5.7: Percentage of Households experiencing food adequacy or inadequacy per province	84
Figure 5.8: The Seven Stages of the Soft Systems Methodology (SSM)	85

LIST OF APPENDIXES

1. Ethical clearance

CHAPTER 1 : INTRODUCTION TO THE RESEARCH

1.1 Introduction

Organizations in different sectors of society operate in complex environments. Public sector organizations are no different. They are characteristically continuously adapting due to the contexts and the ever-changing environmental factors within which they operate. Several authors on complexity, management and public policy have written extensively about the defining character traits of complex organizations (Lorenz, 1987, Booysen *et al.*:1998, Stacey *et al.*,: 2000, Jackson, 2003, Meek, 2010). Given the complex environments in which public sector organizations operate, they are invariably characterized by non-linearity, uncertainty and there is an emergence of order from what initially appears to be very disorderly.

1.2 Purpose of the study

This research aimed to understand and explore the challenges encountered during the development of the KwaZulu-Natal Integrated Poverty Eradication Programme, which during the course of the research, was renamed the KwaZulu-Natal Poverty Eradication Master Plan (2014) as public policy; to be implemented by all provincial government departments, selected national departments and state-owned enterprises using complexity theory as a tool of analysis. The research problem was centred on how the complex issue of poverty was dealt with during the development of the KwaZulu-Natal Poverty Eradication Master Plan in the context of the diverse and complex nature of the government system. The study aimed to further contribute to knowledge in terms of the role that complexity theory can play in creating a better understanding of the development of public policies and programmes by analyzing the Poverty Eradication Master Plan in the Province of KwaZulu-Natal (2014).

The study noted the existence of a variety of literature on complexity and public policy theories and examined the intersect between the two fields. Townsend (2012) opens his argument by stating that for every policy there is context. He questions whether the complexity of complex problems is caused by interactions with the context or by the interactions of agents within the system. This question was raised as a guide to exploring complexity theories and approaches in relation to public policy and programmes during the study.

The significance of the study should be seen in the lessons learnt about public policy context as a complex terrain that should be approached from a systems thinking and complexity point of view by ensuring coherence with other actors' actions to create a platform for co-operation and co-determining solutions.

1.3 Objectives of the research

The objectives of the research were to:

- Reconstruct the narrative of the processes followed in the development of the KwaZulu-Natal Poverty Eradication Master Plan in the complex environment of government policy frameworks;
- Delineate and describe how the different provincial, selected national departments and state-owned enterprises with specific mandates were, in this particular instance, brought together to pursue a common objective through a network of relationships; and
- Use complexity theory tools to define poverty and illustrate the challenges experienced in the development and the implementation of the KwaZulu-Natal Integrated Poverty Eradication Master Plan as a policy of the provincial government.

1.4 Questions for the research

The aims and objectives of the study of exploring the role of complexity theory in understanding public policy were to be achieved through the following questions:

- What were the complexities in the processes followed in developing the Poverty Eradication Master Plan in the Province of KwaZulu-Natal?
- In the context of the complex public policy, what are the institutional arrangements and mechanisms that co-ordinate the Poverty Eradication Master Plan?
- Is the Poverty Eradication Master Plan part of the 2015/2020 Strategic Plans of departments, and are there specific budgets and personnel attached to the programme in each responsible department?

In responding to the above questions, the literature in complexity theory, public policy and poverty alleviation were explored, data collection on the processes that were followed in developing the Poverty Eradication Master Plan was conducted, the findings were analysed, and lastly, conclusions were drawn from the study and recommendations have been made.

1.5 An outline of the study

1.5.1 Theoretical reflections

Chapter 2 of the study deals with the situational analysis and the context of poverty. Chapter 3 reviews literature covering complexity theory, complex adaptive systems, non-linearity, systems thinking, feedback loops, prediction and control, societal learning and change and public policy. Hereinunder is the brief overview of the theories and approaches. A more in-depth exposition of the theoretical foundations is to be found in Chapter 3.

1.5.1.1 Complexity theory

The decision to use complexity theory in this study as a tool of analysis does not assume that there is complete consensus in the literature on it to provide total solutions to public policy challenges. Complexity is a broad subject and does not

have a universal definition, let alone application. Over the years there has been much scholarship on the subject of complexity and today it is seen as a suitable theory for understanding the changing behaviour patterns as well as complex social and natural systems. Authors like McKelvey (1999); Blaser and Manthey (2011) argue that an advanced understanding of complexity requires a major paradigm shift from static complexity, which assumes that once a process is established in ideas, people and organizations it remains the same, to a more nuanced conceptualization of people and organizational interactions as an outcome of a series of interactions that are dynamic and result in creative actions.

1.5.1.2 Complex adaptive systems

This study utilized the notion of complex adaptive systems (CAS) to provide insights into the functioning of complexity theory. According to Meek (2010), complexity theory with its central concepts of non-linearity, emergence, self-organization and complex adaptive systems exposes the limitations of linear approaches to public policy development.

1.5.1.3 Non-linearity

The focus was on non-linearity, emergence, self-organisation and complex adaptive-systems. Geyer and Rihani (2010) argue that complexity is actually relatively simple to navigate by exploring concepts such as attractors, non-linearity, unpredictability, punctuated equilibrium, gateway events and evolution that are found in complex systems. It is argued in the study that the existence and uniqueness of equilibrium points in the relationships between the different role players in the development of a government programme, stability and predictability observations are made; however, the output of a non-linear system is not directly proportional to the input and the behaviour of the system is not arranged in a straight and predictable sequential line.

1.5.1.4 Systems thinking approaches

The use of systems thinking theory on the other hand guided the exploration of the environment in which public policy operates, how the different parts of government

cannot work alone and achieve results by ignoring other parts of government. In systems theory the focus was on soft systems as opposed to hard systems. Hard systems are concerned with quantifiable real world problems whereas soft systems thinking focuses on the ill-defined, abstract and non-quantifiable real world problems that involve human relationships and social interactions (Jackson; 2003; Dawidowicz, 2011).

1.5.1.5 Feedback loops, prediction and control

Feedback loops refer to the information related to the outputs which feed back into the system for the purpose of bringing about change of the outputs. For the purpose of the study this becomes critically important as the development of the Poverty Eradication Master Plan sought to bring about change in the manner in which the programme on poverty eradication was conceptualized and co-ordinated.

Prediction and control relates to the system's ability to head off dysfunction and survive when problems occur. Systems have a number of predictable and less predictable properties and the monitoring of system performance against expected reference standards is a key control requirement as it enables the system to correct deviations from originally desired outputs (Waring, 1996). This view is further supported by Rossiter (2013) in the system's ability to self-correct. Negative feedback loops prevent change in the system while positive loops encourage further growth. The study sought to conduct an analysis from data collected on how negative loops that stood in the way of change were managed and how the positive feedback loops were used to reinforce change.

1.5.1.6 Societal learning and change

The persistent challenges of poverty in the province of KwaZulu-Natal and the unco-ordinated responses by government required audacious and creative methods of dealing with a challenge. Societal learning and change (SLC) refers to managing and changing relationships meaningfully to address persistent societal challenges. Waddell (2005) and Patrizi (2013) argue that the successful management of these relationships, accordingly requires the realignment of relationships at a macro level

between the core systems of society, including government, civil society and business.

1.5.1.7 Public policy

The work of Morçöl (2002) helped to provide better analysis of public policy from a complexity point of view. The study made use of further arguments in the field of complexity and public policy by different writers (Dye,1978; Baker, Michaels & Preston, 1975; Morçöl, 2002; Booysen, 2007.a), supplemented with further readings (Eppel, Matheson, Walton, 2011) to provide the basis for a better understanding of the interface between complexity theory and public policy.

1.6 An approach to the study

In Chapter 3, the study was focused on the research methodology. Organizations, in the context of this study are represented by government departments, government entities, research institutions, private sector and civil society; are complex organisms. They exist in very complex environments. The interactions of its people with the environment and among themselves is fraught with complexity. The demands brought about by the diverse and complex nature of the needs of the society that they serve require a higher level of understanding of complexity and how to respond appropriately. The approach to the study was to use complexity theory to better understand complex challenges of public policy.

1.6.1 Methodology

The qualitative research methodology was used in the study as a tool and an approach. Henning, Van Rensburg and Smit (2004) suggests that the use of the qualitative research methodology is more suitable in instances where the researcher explores variables that are easily controlled and should be left as such since that is the kind of freedom and essence of which needs to be captured in the study, and this is further corroborated by Du Plooy-Cilliers (2014). A quantitative data analysis in the form of a cross-sectional study were presented to add range to the study and to compliment the qualitative research. This was done to get a 'snapshot' of a moment

in time using literature analysis and the historical study of the statistical data from research institutions on desk top. Maree (2007) describes this as creating a picture of a phenomenon at one point in time.

1.6.2 Data collection

Qualitative research studies are designed to discover what can be learned about some phenomena of interest, particularly social phenomena where people are the participants, thus the outcome of any of these studies is not the generalisation of results, but rather, a deeper understanding of experience from the perspectives of the participants selected for study (Mouton & Marais, 1994). Yin (2003; 2013) argues that there are six possible sources of evidence for case studies: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts. Therefore the source documents for studying cases can be as varied as their nature, time and context. During the research there was an extensive document review to gain practical understanding of the processes followed in the development of the Poverty Eradication Master Plan.

Semi-structured interviews that were conducted with the key role-players in the provincial administration focused on senior officials who acted as conveners of the Task Team on Poverty Eradication, senior officials who are responsible for coordinating government structures that deal with Social Clusters programmes and policies and a senior official who acts a secretary for Provincial Cabinet or Provincial Executive Council, the highest decision-making body in the province. The interviews were conducted in a manner that allowed for unhindered responses by participants. The semi-structured interviews were conducted on a one-on-one basis. Merriam (1998) refers to the emergent nature of exploratory and descriptive type of research which is non-linear and therefore cannot be confined to singular mechanistic forms of data collection. Therefore telephonic interviews can be used to supplement gaps in information and to provide further clarity where required.

1.7 Data analysis and interpretation

Chapter 4 of the study is primarily reliant on data analysis from the document reviews conducted. The results of this analysis was used to identify emerging themes and new meaning. The study used the emerging themes and new meaning for analysis to arrive at findings. The study also made use of the recorded interview responses for analysis and for interpreting data.

1.7.1 Limitations of the study

Public policy is a very broad concept. For the purposes of this research, consideration was given to particular processes that were used to co-ordinate government policy with specific reference to the Poverty Eradication Master Plan. Complexity approaches were examined and used as tools for analysis of the relevant public policy. This research study was specifically focused on the KwaZulu-Natal Province in South Africa.

Given the time limitations as a result of the research being conducted over a 12 month period, the government departments in focus were the three large ones that belong to the Social Cluster, namely Departments of Education, Social Development and Health.

There were two broad work streams that were co-ordinating the various technical groups for the poverty eradication programme, namely, the Social and Economic streams. From this population the sample was one respondent representing the Social Cluster, more specifically from the Department of Social Development as the coordinating department for poverty alleviation. From the population of the two Cabinet Cluster Co-ordinators, a sample of one respondent was interviewed. Finally the KwaZulu-Natal Provincial Cabinet or Provincial Executive Council Secretary was also interviewed.

1.8 Conclusion

The most salient features and concerns for the study have been raised in this chapter. Complexity science usage and approaches have not yet found a lot of traction in the South African public sector setting. It is hoped the study will contribute to scholarship in the field of complexity science and to the body of knowledge in relation to the public sector.

CHAPTER 2 : SITUATIONAL ANALYSIS AND THE CONTEXT OF POVERTY

2.1 Introduction

This chapter provides the background details and the context of poverty in South Africa in general, and in the KwaZulu-Natal province in particular. In this chapter an attempt was made to provide a quantitative and qualitative picture of poverty through statistical information from various sources.

2.1.1 Global context

The Millennium Development Goals (MDGs) were agreed upon by the United National Millennium Summit in September 2000. The MDGs brought development back onto the international agenda through mobilizing nations around the world based on the following goals:

- Eradication of hunger and poverty;
- Universal primary education;
- Promotion of gender equality and women's empowerment;
- Reduction of child and infant mortality;
- Improvement of maternal health;
- Fight against HIV and AIDS, malaria and other diseases;
- Ensuring environmental sustainability; and
- Developing a global partnership for development.

The global financial crisis starting in 2008 had huge ramifications for the global economy, particularly in North America and Western Europe. Millions of jobs were lost all over the world. Millions of families fell into the poverty trap. The United States of America was able to extricate itself from the clutches of economic recession much more quickly than Western European countries who finally emerged from the recession during 2013 (STATSSA, 2015). This recession was felt the world over as a

consequence of the globalized economy, with the net effect being negative economic growth and fiscal austerity measures (International Monetary Fund, 2014). South Africa was not immune to these global economic crises as the manufacturing, mining and agriculture sectors lost jobs and sent a huge number of households into dire poverty (National Treasury, 2015). Unemployment figures stood at 25% or 5,2 million people and were on the ascendency (Statistics South Africa [STATSSA], 2015).

Whilst Western Europe finally emerged from recession in 2013, its economic growth prospects remained weak. Austerity measures are in place in many Eurozone countries, manufacturing growth remains poor and unemployment figures are at a record high. The effects of this impacted heavily on South African economic performance since Western European countries such as the United Kingdom, Germany, France, Netherlands etc. are historical trading partners of South Africa. Even though South Africa has joined the BRICS (Brazil, Russia, India, China and South Africa) block of emerging economies whose economies were not as adversely affected by the 2008 financial crisis, the ripple effects of this recession plummeted the country's economic and fiscal outlook to record lows, lower than the what the National Development Plan (2011) or New Growth Path (2011) had forecast.

These global economic challenges and the resultant high unemployment rates, poverty and growing dependency have given rise to high inequality levels. Stiglitz (2012) points out that one of the consequences of high levels of inequality is that fewer people need fewer goods and services so economic growth is eroded. The scenario would be different if more people required more goods and services which would be a consequence of lower levels of inequality. The persistent fiscal risks associated with the banking sector, slower economic growth and unemployment in the Eurozone did not making matters better. The geo-political tensions in the Middle East and Eastern Europe, and the fall in commodity prices made the economic outlook appear bleak rendering the recently experienced economic recovery look tentative. Piketty (2014) links the high levels of inequality to capital owners not sufficiently investing in economic activities to stimulate growth thus reducing the inequality gap.

Bearing this in mind, the Sustainable Development Goals (SDGs) that were adopted by the United Nations Assembly in New York in September 2015 for 2030 (United Nations Development Programme, 2015) were as follows:

- No Poverty;
- Zero Hunger;
- Good Health and Well-Being;
- Quality Education;
- Gender Equality;
- Affordable and Clean Energy;
- Decent work and economic growth;
- Industry, Innovation, and Infrastructure Growth;
- Reduced Inequality;
- Sustainable Cities and Communities;
- Responsible Consumption and Production;
- Climate Action;
- Life Below Water;
- Life on Land;
- Peace, Justice and Strong Institutions; and
- Partnerships for Development.

The SDGs acknowledge the growing inequality gap and seek to galvanize the world nations towards addressing the growing risk of national and international instability through a series of interlinked, interrelated and interconnected goals that would as a consequence comprehensively address the developmental challenges within the post-2015 development agenda.

2.2 National context

The democratic government that came into power in South Africa after the 1994 elections came face-to-face with a racially unequal society, poor educational levels, low skills levels, poverty, unemployment and poor social cohesion (MTSF, 2014).

In July 2014, Statistics South Africa released the mid-year population estimates in line with one of the standards set by the International Monetary Fund for member states to annually publish population estimates between national censuses. Population estimates are based on established population demographic variables such as fertility rates, mortality rates and migration trends. According to the Statistics South Africa (STATSSA, 2014) population estimates of the mid-year population in 2013 were estimated to be approximately 53 million people. Gauteng had approximately 12,7 million residents, making it the most populated province followed by the province of KwaZulu-Natal with 10,4 million residents and Eastern Cape province with 6,6 million residents. While the Northern Cape province is the biggest in land size it remained the smallest in population size with 1,1 million inhabitants. These mid-year population estimates indicated an increase from the 2011 Census figures of 51 770 560 (STATSSA, 2011). Although the figures were based on estimates using projected mortality, fertility and migration trends these could change but not very drastically. What can be deduced from the above figures is that there was an increase in life expectancy owing to fewer HIV and AIDS related illnesses as well as increased access to free basic health care, including antiretrovirals, while the fertility levels do not indicate any significant positive change.

2.2.1 Income levels nationally

While the debate on the definition of poverty rages on, there has been no single standard of measuring poverty. Glewwe (1988) had argued for the use of 'either income or expenditure data' of households or individuals to measure poverty. An acceptable standard in measuring poverty, according to Woolard and Leibbrandt (1999), entails ranking individuals or households on the basis of welfare indicators, and income and consumption patterns. Income levels are used as a determinant of poverty lines. In fact Statistics South Africa (2015) not only supported this approach in rebasing national poverty lines by measuring income, but also expanded it to include food security as well. These two determinants provide a more clearer picture of an individual or household's vulnerability.

Researchers, development organizations and certain countries have recognized that poverty lines are important tools that allow for statistical reporting of poverty levels and patterns as well as planning for poverty reduction in any population. Statistics South Africa (2015) in their rebasing and measurement of poverty have used income levels and food security as determinants of poverty lines of individuals and households. Statistics South Africa (2008) employed an internationally recognized approach, the 'cost-of-basic-needs approach'. This approach produced three poverty lines. The three poverty lines are:

- The food poverty line (FPL) – individuals whose income is unable to assist them to purchase enough food to provide them with minimum per capita energy for a healthy sustenance;
- The lower bound poverty line (LBPL) – income enables individuals to purchase non-food items. Individuals at this level do not normally have the luxury to choose between food and non-food items. They have to make hard choices at the times; and
- The upper bound poverty line (UBPL) – Individuals at this level are able to purchase both food and non-food items.

Figure 2.1 provides an analysis of the types of incomes per percentage in the different provinces. It should be noted that in some income categories there are overlaps as a result of dual or more income streams. Western Cape and Gauteng provinces indicate high levels of salaried income, thus placing individuals living in these provinces at the upper bound poverty line. These provinces also show a relatively lower percentage of individuals who are dependent on state grants. This means that poverty levels in these two provinces are relatively lower. Other provinces, KwaZulu-Natal included, show a relatively higher percentage of individuals that benefit from state grants. This indicates higher levels of dependency on state support for sustenance as well as dependency on other members of the household to augment income from grants.

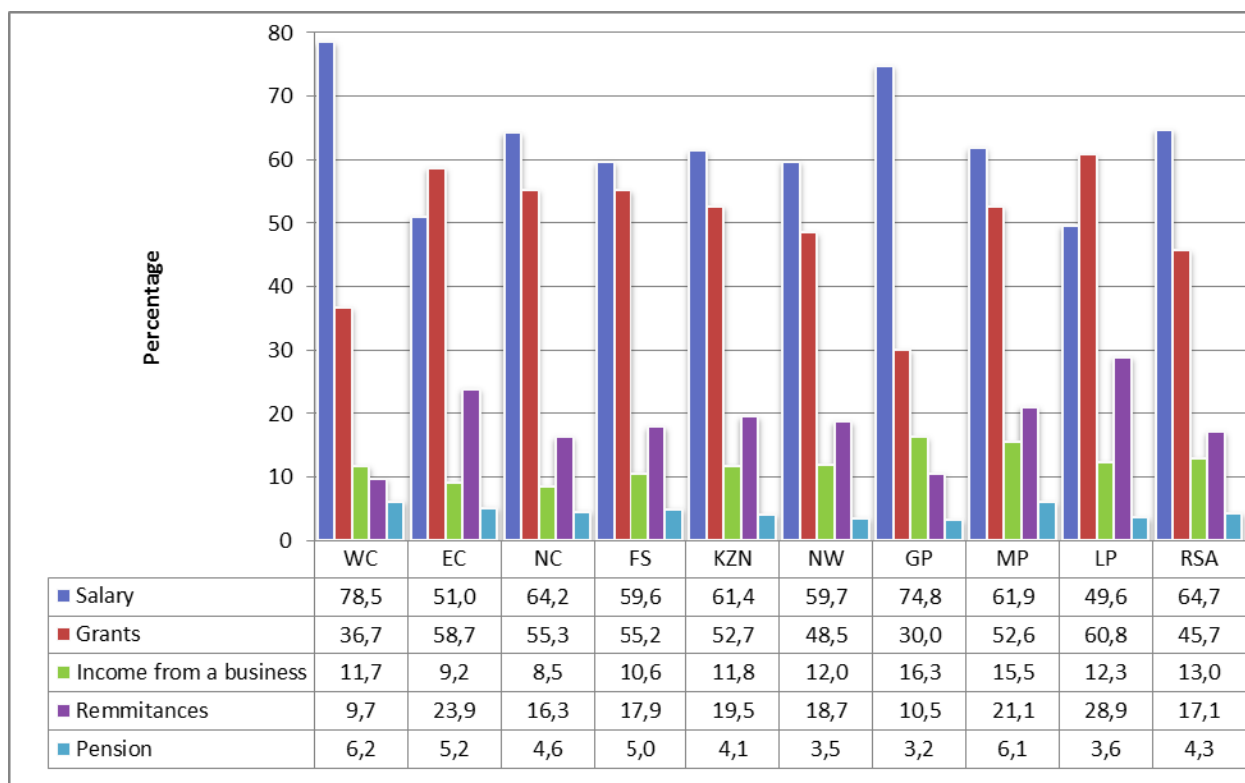


Figure 2.1: Types of income per province

Source: Statistics South Africa, 2013 General Household Survey, June 2014

2.2.2 Household food security

Figure 2.2 illustrates the levels of household and food security in all nine provinces of South Africa. Western Cape and Gauteng indicate a higher food access adequacy. This is commensurate with Figure 2.1, where both provinces indicate a higher percentage of the population that is salaried. There is a strong correlation between higher levels of income and food security as the availability of money places the individuals and households at the upper bound poverty line, thus enabling them to buy nutritious and healthy food and also spend money on non-food items such as healthcare, education, housing, clothing and transport (STATSSA, 2012).

The households and individuals whose access to food is severely inadequate are classified as extremely poor and live on less than one meal per day and less than seven meals per week (STATSSA, 2012). They are at an extremely dangerous stage of poverty and these are the people that the poverty eradication programme is mainly aimed at.

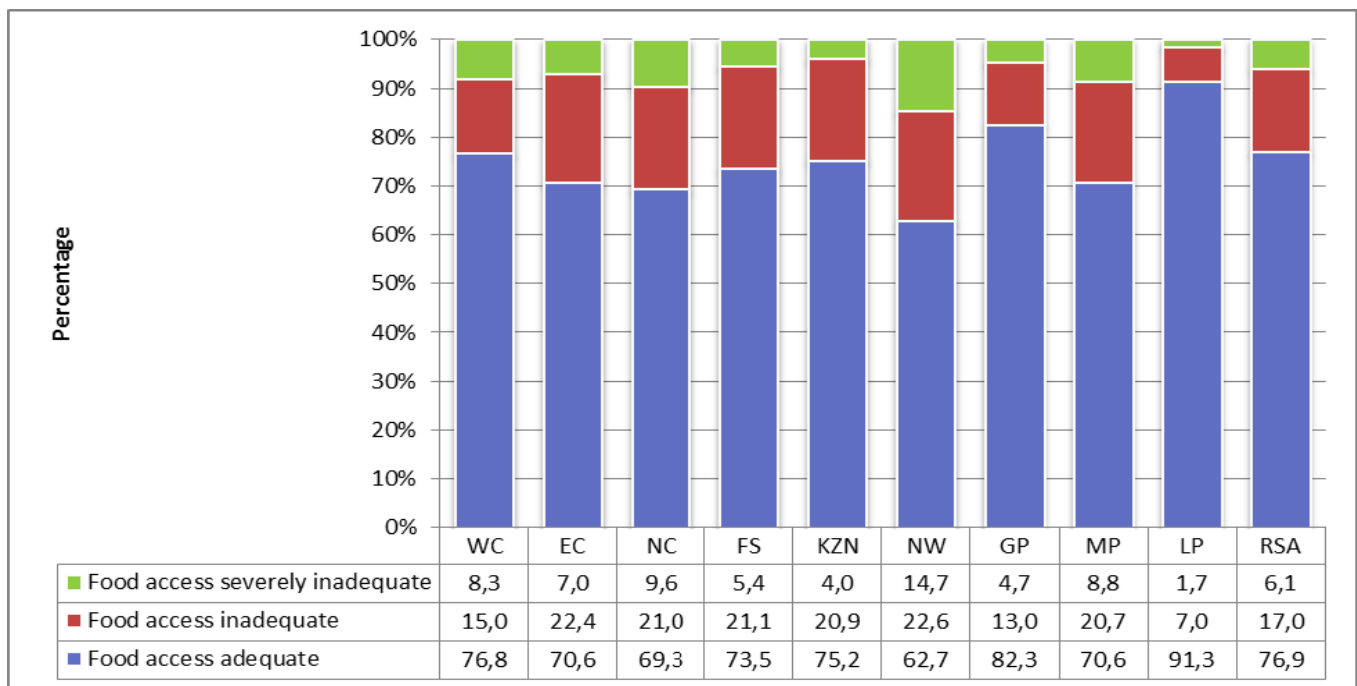


Figure 2.3: Household food security levels per province

Source: Statistics South Africa, 2013 General Household Survey, June 2014

2.3 Provincial context

The province of KwaZulu-Natal is the second largest in terms of population concentration. Before the 2011 census it had the highest population, but net outward migration to other provinces, most notably to the Gauteng province, led to the loss of that status and of the budget allocation related to population density from the national equitable share (Census, 2011).

2.3.1 Population per District Municipality and Durban Metro

There are ten District Municipalities in the province plus one Metropolitan Municipality in Durban. The population figures indicate a higher concentration in the Metro, followed by uMsunduzi Local Municipality within uMgungundlovu District Municipality and uMhlathuze Local Municipality within the uThungulu District Municipality (Table 2.1).

Population by DM and Metro

Population		<15		15 - 46		65+	
		2001	2011	2001	2011	2001	2012
Province	KwaZulu-Natal	34,9	31,9	60,4	63,1	4,7	4,9
Metropolitan municipalities	Ethekwini Metropolitan Municipality (ETH)	27,7	25,2	68,2	70,0	4,2	4,8
District Municipalities	Ugu District Municipality	37,2	33,3	56,7	60,1	6,1	6,6
	uMgungundlovu District Municipality	31,2	28,3	63,8	66,4	5,0	5,3
	Uthukela District Municipality	38,8	36,8	56,7	58,5	4,5	4,7
	Umzinyathi District Municipality	42,5	40,3	51,9	55,3	4,6	4,5
	Amajuba District Municipality	35,4	33,7	60,4	61,7	4,1	4,7
	Zululand District Municipality	42,1	39,5	53,2	55,8	4,7	4,7
	Umkhanyakude District Municipality	43,5	40,3	51,9	55,3	4,6	4,5
	Uthungulu District Municipality	38,3	34,8	57,3	60,7	4,4	4,5
	iLembe District Municipality	36,6	33,8	58,5	61,3	4,9	5,0
	Sisonke District Municipality	41,8	37,9	53,1	57,2	5,1	4,9

Table 2.1: Population distribution per District Municipality

Source: Statistics South Africa, Census 2011

According to Statistics South Africa (STATSSA, 2011), in 2011 KwaZulu-Natal had the third highest poverty measure of the nine provinces. Furthermore, according to STATSSA, about 3.28 per cent of all KwaZulu-Natal citizens lived in extreme poverty. At least 32.9 per cent were food deprived and KwaZulu-Natal had the highest gender based poverty incidence (45 per cent) and intensity (46 per cent) in South Africa. KwaZulu-Natal also had the second highest level of rural poverty in South Africa (29 per cent) and the second highest in traditional settlements (54 per cent) after the Eastern Cape.

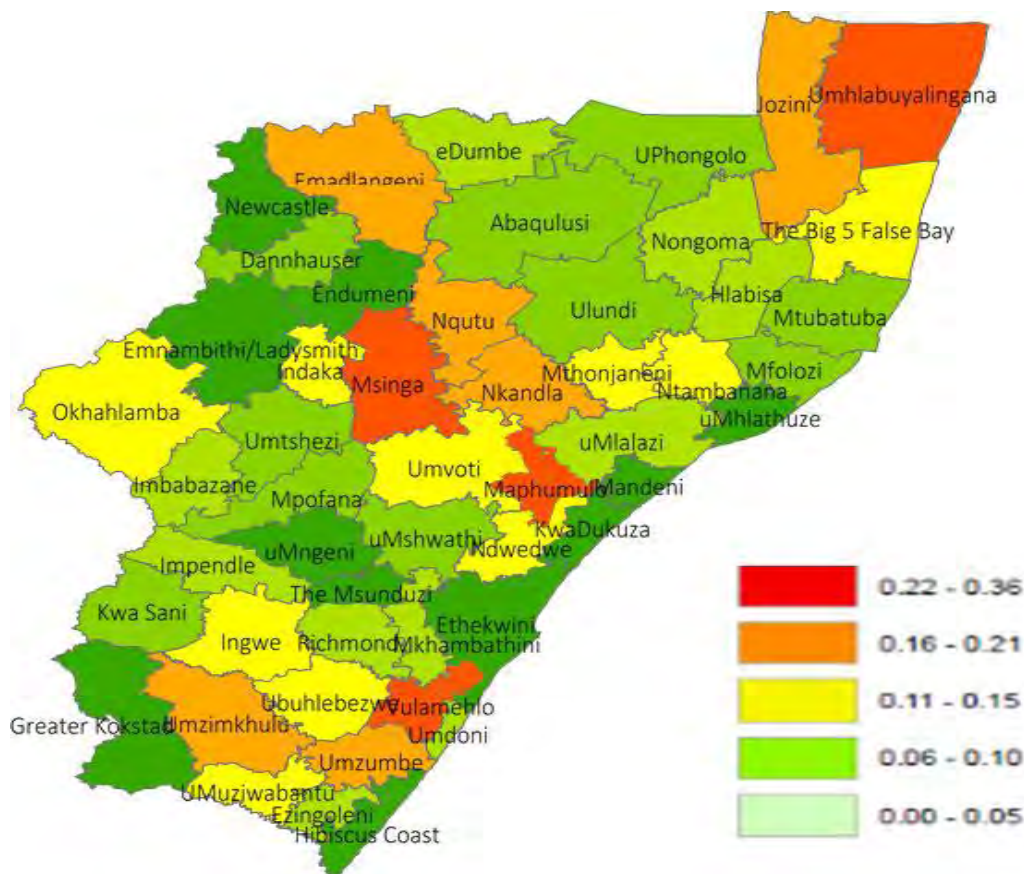


Figure 2.4: Multiple Deprivation Index Score per Local Municipality

Source: Statistics South Africa, 2014

Out of the eleven District Municipalities, four had the poorest Local Municipalities (LMs) namely UMkhanyakude (uMhlabuyalingana LM), UMzinyathi (uMsinga LM), (formerly Sisonke), Ilembe (Maphumulo LM) and Ugu (Vulamehlo LM) District Municipalities (Statistics South Africa, 2014: Multiple Deprivation Index Score) (Figure 2.4).

The red, amber and yellow colours in figure 2.4 depict the poorest of the municipalities respectively with red being the most severe. The poverty levels as measured by Statistics South Africa using the Index for Multiple Deprivation, looked at the five dimensions of poverty, namely, income, food security, employment/level of education, health status and living conditions. This means that unemployment, hunger, lack of schooling, poor health and poor living conditions caused multiple deprivation for people living in these municipalities.

2.3.2 Poverty in relation to income levels per District Municipality

Average Income Level per DM

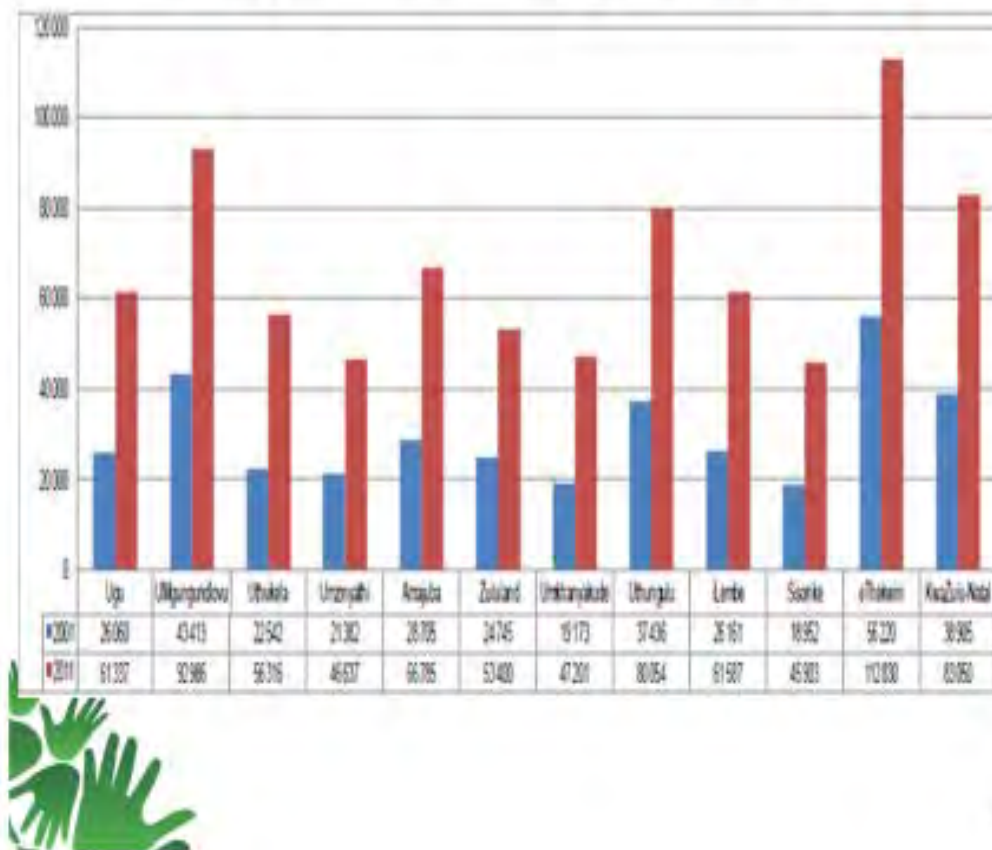


Figure 2.5: Income levels per District Municipality: Source- STATSSA, 2012

Income levels in the different District Municipalities as indicated in Figure 2.5 supports the STATSSA assertion that uMkhanyakude, Ugu, uMzinyathi, Harry Gwala (formerly Sisonke) and Zululand were the poorest in terms of the South African Multiple Poverty Index (SAMPI) grading. The income levels as indicated above point to reduced ability to afford a sustainable livelihood. The higher income levels in Durban (eThekweni) Metro, uThungulu and uMgungundlovu District Municipalities can be attributed to the concentration of commercial activities in Durban, Richard's Bay and Pietermaritzburg respectively.

2.4 Conclusion

It is very clear from the poverty context in South Africa, and in the KwaZulu-Natal Province in particular, that there needed to be decisive interventions from the government to address the poverty issues. This is the reason that the national government introduced the National Household Food and Nutrition Security Policy and Strategy in 2013, and the KwaZulu-Natal Provincial government introduced the Integrated Poverty Eradication Programme in 2014, later renamed the KwaZulu-Natal Poverty Eradication Master Plan.

CHAPTER 3 : LITERATURE REVIEW

3.1 Introduction

This chapter is a review of the literature related to poverty alleviation, public policy and complexity theory. According to Henning, Van Rensburg and Smit (2004) a literature review is described as the “contextualization of the study to argue a case, identify a niche to be occupied by the research”. Mongan-Rallis (2014) mentions that the purpose of literature review is to provide a critical analysis of the different works on a specific topic. This literature review was achieved through the analysis of various theoretical underpinnings that contribute to the definition of poverty as a complex phenomenon influenced by a variety of political, geographical, social, economic, cultural and time factors. In this regard, the background to the issues concerning the study was examined through consulting literature from the past. This was however supplemented with more recent writings. A study of the theoretical frameworks that inform complexity theory was also be made. The aim of this study was to understand how the different views and perspectives on complexity could help to better understand the development of the Poverty Eradication Master Plan in the Province of KwaZulu-Natal as a public policy. This section surveyed the complexity science literature as it relates to improved understanding of issues of public policy. The Provincial Administration of KwaZulu-Natal, as a public service organization responsible for development, co-ordination and implementation of provincial government policies, is the central focus of this study. For the purposes of this study, the provincial administration was viewed as a complex system made up of interdependent parts or subsystems that cannot function independently from each other.

This study proposes that developing and implementing public policy and public administration are complex undertakings that require an analysis from a complexity theory point of view. The type of programmes that governments have to implement

have grown in their level of complexity, thus adding to the policy quagmire facing public administrations.

3.2 Defining poverty

There are many definitions of poverty, and these differ from country to country and context to context. Policy makers, politicians, scholars, development practitioners, all have divergent views on the definition of poverty. Defining poverty is a very contentious undertaking that is influenced by a variety of perspectives. These divergent perspectives (Ife & Tisoriero, 2006; Slim, 1995) serve to underscore the very complex and multi-dimensional nature of the sometimes confusing conception of poverty.

Several other scholars in defining poverty propose a more precise definition on the basis of the different levels, extent and depth to which it manifests itself either in relative terms (as the needs for survival for people in Britain might differ from those in the developing world (Alcock, 1997), or in absolute terms based on individual needs for survival (Sandbrook, 1982), or in terms of a compromise that brings together both notions of poverty, as proposed by Oppenheim (1993). Oppenheim argues that a compromise approach provides a more concise conception of poverty while not losing the critical elements that make up the subject of poverty.

Some of the contentious issues in defining poverty are found in relation to the policies developed to respond to the challenges brought about by poverty (Ikejiaku, 2009). Regardless of the approach adopted in a particular context in defining poverty, the responses and interventions towards addressing poverty are informed by a specific ideological orientation and approach (Ife & Tisoriero, 2006; Slim, 1995). This assertion is further supported by Saunders (2003) who points out that defining poverty from a neutral point of view is almost impossible as poverty definition is driven by country specific context, the geopolitical environment, the political and ideological agenda.

Nyasulu (2010) states that there are various definitions of poverty, and that these definitions have evolved over the years, and that some of the definitions have been

dropped as unsuitable as more knowledge became available. There are different approaches that are adopted in different contexts in defining poverty. In some settings, an economic approach is used in defining poverty, in others poverty is defined from a social point of view, other contexts perceive poverty as a statistical issue, while others adopt a political definition. Quite clearly, there is no scientifically and universally common definition of poverty. The admission that there cannot be a universally common definition of poverty supports the notion that poverty is a complex subject that requires to be examined and understood from a complexity perspective. The literature indicates that poverty is multi-dimensional in nature and how the different variables influence how poverty manifests itself.

The interface between power, politics and policy play a critical role in defining a particular path that the definition of poverty follows as well as the thrust of the interventions. Power, as defined by Lukes (1993), is the capacity of those in authority to shape and modify people's desires and interests. He further suggests that power can be used contrary to the people's interests. Dahl (2011) contends that power should be defined in terms of the relationship between different people, structures and organizations and should be as expansive and ubiquitous as any other social theory. How does power then influence public policy thrust? To this end, it is opportune to pick up on the salient points made by some of the writers on public policy (Hogwood and Gunn, 1984), who describe public policy as patterns of related decisions to which a range of circumstances and influences whether individual, group or organizational have contributed. Howlett and Ramesh (1995) define public policy as a set of decisions by political actors regarding choices of decisions within a particular context. In Dye (2012) public policy is defined as a concerted effort to define the path and course of action following a set of decisions. Looked at in combination, power, politics and public policy have a significant role to play in shaping the discourse on the definition of poverty, measurement of poverty and interventions to address poverty. Looked at from different countries' experiences, from different social-economic, language and cultural settings, poverty means different things to different people at different times.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has somehow managed to develop a universal definition. UNESCO (2001) defined poverty as 'a condition in which individuals and households cannot meet basic needs for income, food, shelter and health care'. The World Bank (Coudouel, Hentschel & Wodon, 2002) adopts an expansive approach in its definition of poverty. Adopting this definition avoids the reductionist approach in understanding poverty as previous debates and writers have led us to believe. This approach argues for a broad definition of poverty as a multidimensional challenge that requires a non-linear response. This definition argues that poverty occurs as a result of multiple deprivation, as a lack of access to the most fundamental material sources to sustainable living, such as income, housing, land, representation, health, education and food. The definition goes on to include capital assets to support a sustainable livelihood, such as human, physical, financial, social and natural capital, as well as attitudes and relationships.

The United Nations Development Programme (2006) when defining poverty uses concepts such as lack of income, deprivation, poverty lines, lack of access to social services. This approach seeks to bring together elements, whether individually or collectively, that define poverty. This approach to defining poverty encapsulates the earlier argument on the multidimensional nature and complexity of poverty.

The Millennium Development Goals (MDGs) of the United Nations declared that, goal number one is "To eradicate extreme poverty and hunger by 2015". The Reconstruction and Development Programme (RDP) of 1994, which was the new democratically elected government's post-apartheid reconstruction and development blueprint, had also identified the elimination of poverty as a key fundamental thrust of the new government in addressing inequality. The National Development Plan (NDP) *Vision for 2030*, which is a macro-framework for development in South Africa, is based on two objectives, namely, the elimination of poverty and inequality by 2030 (National Development Plan, 2012).

The KwaZulu-Natal Provincial Administration adopted the principles enshrined in the MDGs, the RDP and NDP in crafting the Poverty Eradication Programme. The

Financial and Fiscal Commission's (FFC) briefing to National Cabinet on the Division of Revenue Act of 2014 recommended that government should move aggressively towards a fully integrated system of social security benefits that simplifies client access, improves client outcomes and fiscal sustainability through greater programme effectiveness and reduced administrative costs caused by duplication and overlaps. The Financial and Fiscal Commission (2014) further recommended that there should be improvements in reducing costs of household food security through joint planning and integration of key poverty reduction programmes geared towards improving household food security. This assertion by the Financial and Fiscal Commission can be traced back to the writings of Mkandawire (2005 and 2010) on the policy shifts from universalism of poverty reduction programmes to a targeted approach and inter-sectorality in dealing with poverty. According to Mkandawire targeted poverty reduction approaches are guided by the efficient allocation and utilization of resources by the state given the budget constraints, competing demands and the exigencies of the macro-economic environment. In this instance, the 'deserving poor', who are identified through some form of means testing, are prioritized for poverty reduction interventions.

Universalism in poverty reduction as per Mkandawire refers to a situation where all members of the population have access to poverty eradication programmes. He argues that to address issues of inequality and sustain intervention programmes a cross-section of the population must receive attention in one form or the other to uplift those that are in dire poverty or below the poverty line and keep those above the poverty line at a sustainable level. This approach is linked to welfarism, where the state plays an active role in providing social services for its citizens.

The manner in which poverty in South Africa is perceived dates back to the complex history of institutional inequality and racial exclusion before 1994. Educational, economic, housing, land and social services opportunities were based on race. The demise of the apartheid system meant that socio-economic opportunities were based on the principles of equity, fairness and inclusion, however this did not mean the complete reversal of poverty and the decades of socio-economic exclusion. It is perhaps proper therefore to understand poverty in South Africa in the light of the

country's complex history. The levels of inequality and poverty seen today are as a result of this complex history and the dynamics of institutional and structural political, social and economic exclusion. According to the diagnosis conducted by the National Planning Commission (NPC), the poverty trends in South Africa have followed the complex fault lines and socio-economic re-engineering created by the exclusionary policies of the past (NPC, 2011).

Du Toit (2005) argues that to understand the dimensions of poverty in South Africa particular attention needs to be paid to the complex socio-economic policies and power relations that underpinned the policy of apartheid. The OECD (2015) contends that impressive gains have made in reducing poverty all over the world as a result of a multi-dimensional approach to understanding and dealing with poverty. It is argued that the challenges brought about by poverty are intractable, structural and ubiquitous. This, according to the authors, requires the conscious broadening of the "conceptual and theoretical terrain of poverty studies". Such an exercise requires a deeper exploration of the complex issues around race, power, political economy and public policy that shape the make-up of the South African society as espoused in the constitution.

In South Africa, various attempts at defining poverty have been made since the advent of a democratic and non-discriminatory dispensation after the 1994 elections. Any definition of poverty in South Africa has to be aligned with constitutional provisions and has to be rights-based rather than technocratic, mechanistic and reductionist. The Bill of Rights in the South African Constitution guarantees every citizen "the right to have access to ... sufficient food and water" and that "... the State must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of each of these rights" (Constitution, 1996: 12). The Bill of Rights as contained in the Constitution does not guarantee any specific level of income for any person or the right to a job. It does however address a number of critical aspects that affect people's well-being, most particularly the right to adequate housing, to basic health services, to sufficient food and water and to social security, including social assistance, and to education. In addition, children's

right to basic nutrition, shelter, health care services and social services are specifically enshrined in the Bill of Rights in the Constitution.

In South Africa the current discourse in defining poverty has largely been framed by the National Development Plan (NDP) *Vision 2030*, which states emphatically that there is the need to 'eradicate poverty by 2030' (National Development Plan, 2012). Unlike many traditional models which measure poverty by a single factor such as low income, this approach takes into account a variety of economic, social, political, and ecological factors that impact a person's ability to sustain a livelihood. Poverty is viewed as a state of multiple deprivations, i.e. a deficiency in an individual's socio-economic capabilities. Its manifestations include poverty in income, lack of access to basic services, health, education and access to assets, the extent of social networks or social capital among to the poor. This view can be further found in the African National Congress's (ANC) 2012 Mangaung Conference Resolutions. The Social Transformation Policy Document declares that in addressing poverty and inequality the current administration will have to provide basic rights to shelter, food, health, employment, education, healthcare, water and sanitation, and all aspects that promote the physical, social and emotional well-being of all in our society. Additionally, this commitment should extend to providing a social safety net for the most vulnerable which include women, children, youth, families in need of care, and older persons.

The expansive approach to poverty eradication as outlined in the National Development Plan and the African National Congress Mangaung Resolutions are an embodiment of what Mkandawire (2010) proposes in his treatise on the inter-sectorality of the determinants of poverty. His argument is that poverty eradication requires broader focus on measures that include human development since socio-economic development is inherently intertwined with poverty eradication, and that there are interdependencies between eradication of poverty and socio-economic development. This view is also reflected in the National Household Food and Nutrition Security Policy and Strategy (2013) which supports the inter-sectoral approach. In the hugely unequal society such as in South African, there is a growing number of the poor in contrast to the small number of rich people. Slow economic

growth, inequality in South Africa and the growing gap between the 'haves' and the 'have-nots' find congruence with the argument by Stiglitz (2012) that where there are fewer people needing fewer goods and services as a result of high levels of inequality economic growth is eroded. The few who have means of capital, argues Piketty (2014), are generally unwilling to share their capital through investing in growth-inducing economic activities. He therefore advocates for changes in the tax regimes in developing countries to include a wealth tax and the establishment of minimum wage levels especially for blue collar workers. Through this, he argues, the levels of inequality and poverty will be reduced in dealing with challenges of food security since this could be caused by multiple factors requiring multiple but integrated responses in dealing with inequality and poverty.

The Poverty Eradication Task Team in KwaZulu-Natal having examined a number of definitions of poverty a Statistics South Africa's (2014) definition where poverty is seen as, 'multiple deprivation, where an individual is unable to meet his basic daily needs', was agreed upon as a universal definition that would best capture the intent and purpose of the Poverty Eradication Programme, namely, "a state of multiple deprivations, i.e. a deficiency in an individual's socio-economic capabilities". This definition includes poverty of income, lack of access to basic services, health, education and access to assets, the extent of social networks or social capital among to the poor (KZN Task Team Report, 2013).

From the literature, various debates and policy frameworks, it can be deduced that from the complexity point of view poverty is a multidimensional phenomenon that is caused by the state of multiple deprivation.

3.3 Complexity theory

Earlier notions and literature on complexity categorized it as a state of uncertainty, mess, chaos and disorder (Ackoff, 1981; Jauch & Kraft, 1986; Meek, 2010) and was seen as being limited to mathematics and natural systems. Over the years there has been much scholarly work undertaken on the subject of complexity and many insights have brought greater understanding to the field. Today it is seen as

eminently suitable to understanding the changing behaviour patterns as well as complex social and natural systems. Complex adaptive systems (CAS), systems thinking theory, social evolution theory and other related theories, have contributed in creating a foundation for clarity of thought on the subject of complexity.

Originating from meteorologist Edward Lorenz's experimentation on long range weather forecasting which highlighted that small changes in a complex system's initial conditions can significantly change long term behaviour. This was popularly known as the 'butterfly effect', where the flapping of a tiny butterfly's wings in England can be seen to be ultimately having an effect on weather conditions in China (Jackson, 2003: 114). Complexity theory is suitable as a tool to analyze the changing behavior patterns and interactions in organizations, between organizations as well as complex social and natural systems because it is holistic, places emphasis on creativity and demands a paradigm shift away from control-based approaches.

The interwoven nature and characteristics of interactions between people and between organizations in public policy is complex and benefits from a better understanding of complexity. McKelvey (1999) argues that to better understand complexity requires a major paradigm shift from static complexity, which assumes that once a process is established in ideas, people and organizations it remains the same, while Zimmerman (2011) advocates for a more nuanced conceptualization of people and organizational interactions as an outcome of a series of interactions that are dynamic and result in creative actions.

Complexity theory provides opportunities for an analysis that looks at how complex societal problems contribute to and can be attributed to poverty, the complex nature of government systems and the complex environment of policy co-ordination. Complexity analysis provides the basis for arguing for a more integrated and multi-sectoral approach to dealing with poverty. Jansen (2010) argues that there should be a multi-disciplinary approach to resolving the vexing and most perplexing societal problems of our time. He further states that being locked into single-discipline thinking will, in most cases, fail to transcend the discipline created barriers and thus

fail to understand that the most complex social and human problems confronting modern societies that cannot be solved through linear approaches but through interdisciplinary thinking that crosses single-disciplinary boundaries

Stacey (2010) argues that wading one's way through complexity theory can be daunting. He proposes a 'Stacey Matrix' which looks at two dimensions in complex adaptive systems. On one end of the spectrum there is 'the close to certainty' dimension where there are clear linkages between cause and effect and where similar issues or decisions have been dealt with in the past and therefore deductions can be made from the previous experiences to predict the outcome of the course of action with certainty. At the other end of the spectrum there is 'the far from certainty' dimension. Here decisions are far from certain and the conditions present themselves in a uniquely complex manner in such a way that there are no clear signs of linkages from the cause to effect. The other axis stretches from close to agreement to far from agreement. Using past experience will not assist in predicting the outcome. While Stacey (2010) contends that complexity theory is daunting, Geyer and Rihani (2010) argue that complexity is actually relatively simple to navigate by exploring concepts such as attractors, non-linearity, unpredictability, punctuated equilibrium, gateway events and evolution that are found in complex systems.

3.4 Non-linearity

The general properties of non-linearity and complexity systems need to be considered for a better understanding of the interactions of people and organisations in developing the Poverty Eradication Master Plan. Lorenz (Jackson, 2003: 114) made a discovery that making predictions in complex natural and social systems is nearly impossible given the non-linear relationships that characterize the interactions between people and organisations. In Riley, Robinson, Gamble, Finegood, Sheppard, Penney & Best (2015, p.50), it is clearly indicated that because of the non-linearity of the system, there are no repetitions or re-occurrences as each incidence has its unique characteristics. The existence and uniqueness of equilibrium points in the relationships between the different role players in the

development of a government programme, stability and predictability observations can be made; however, the output of a non-linear system is not directly proportional to the input and the behaviour of the system is not arranged in a straight and predictable sequential line.

True, Jones & Baumgartner (2007) write that punctuated-equilibrium theory developed from a simple observation, that political processes are generally characterised by stability and incrementalism but occasionally they produce large-scale departures from the past. One can see that important governmental programmes at certain stages get altered dramatically, even if most of the time they continue as they did in the previous year. While both stability and change are important elements of the policy process, most policy models have been designed to explain, or at least have been most successful at explaining, either the stability or the change. Mortensen, Jones & Baumgartner (2014) suggest that punctuated-equilibrium theory encompasses both.

Numerous initiatives on poverty alleviation in South Africa generally have been incrementally implemented in the past through programmes such as 'War on Poverty' and 'Zero Hunger', however none of them have had significant impact on poverty (Department of Social Development, 2013). The Poverty Eradication Master Plan is argued to represent a significant departure from previous attempts at eradicating poverty (State of the Province Address, 2015) through an integrated approach.

3.4 Complex adaptive systems

Various role-players from the government sector, civil society sector, research community sector have played a significant role in shaping the Poverty Eradication Master Plan for the Province of KwaZulu-Natal. This is evidenced by Jackson (2003) who argues that self-organizing is a property of complex adaptive systems which is where agents intermingle in a bottom-up approach, influenced by both positive and negative feedback, according to their own principles or rules. Given that they do not work from one set of rules, this results in new choices or direction in a self-organizing

way. Systems self-organise to new levels of order without any external intervention from someone.

The environment contains components which affect the system but which the system is unable to control directly and is unable to affect to any significant level (Waring, 1996). Systems have boundaries which are subjective 'markers' that define the components that are deemed to be in the system and which ones are not. It is important to set this boundary to distinguish between the system and the environment in which the system is embedded (Bang & Esmark, 2013). Viewed as a system, the policy of governance and public administration is made up of a set of interdependent parts or sub-systems, which are the different government departments, which interact with other sub-systems and the external environment through positive and negative feedback loops. Given that the policy on poverty eradication itself is dependent on the broader government environment, boundaries within the interdependent parts are difficult to be drawn and to a large extent are unpredictable.

This aspect of systems thinking is important to this study in that it helps to determine the actors and boundaries for the relationships within the government system. Understanding the perceived boundaries of the participants is very important to understanding the dynamics of the system as a whole.

The presence of emergent properties does not provide an argument against causality, only against deterministic forms of prediction. Complex systems are adaptive. They can reorganize their internal structure without the intervention of an external structure. Arguments by Holland (1995) and Ellis (2011) indicate that the behavior of individuals or "agents with schemata" is influenced by the input produced in a "dynamic system at a lower level of aggregation". The agents are connected to one another and they are influenced by the behaviour of other subsets of agents in the system. This viewpoint as an approach to complex policy conundrums is supported by Townsend (2012) who suggests that it is prudent that at an early stage the nature and challenges of policies and sources of complexity are dealt with. This helps to address the issue of whether the complexity perceived is as a result of

inherent interactions within the system, or is the emergent complexity created by actors or agents.

In Allen, Maguire and McKelvey (2011) there is mention of the concept of 'coevolution to the edge of chaos'. In this the authors highlight the functional policy trade-offs between the different agents who might have come to the discussion on the development of the poverty eradication programme with hard and predetermined positions. First the discussion would gravitate towards the edge of chaos until there are policy trade-offs and new policy choices and positions are adopted so that an equilibrium is reached. This outcome is as a result of innovation, a creative management of hard positions, driven by the desire to change previously held views and produce a new way of doing things. The Journal for the American Institute of Biological Sciences (2013) refers to this as "autocatalytic sets", meaning they self-organise to combine ideas that would not have been thought of initially to produce a new dynamic set of policies to address vexing societal problems.

The complexity and non-linearity of the system causes the emergence of other systems. The argument here is that to understand the full system you have to study the system as a whole and not in parts. The whole is rich, dynamic, and above all, non-linear. The notion of 'emergence' is used to describe this aspect.

3.5 Systems thinking theory

Various scholars (Checkland, 1981; Gleick, 1987; Jackson, 2003; Neuman, 2013) concur that Von Bertalanffy, Wiener and Hegel, among a few others, are the founders of systems thinking theory. Their scholarly work is believed to have shaped contemporary understanding of systems thinking. According to systems thinking, systems exist everywhere and are configurations of parts that are connected and joined together by webs of relationships between individuals, organizations and the environments in which they exist (Flood, 2010). Thus, systems thinking recognizes the interdependence between groups of individuals, structures and processes within an organization and among organizations that enable them to function in order to achieve common goals and results.

The fundamental consideration of systems thinking is to look at systems holistically. From the literature above it becomes clear that systems consist of components that interact in an organised way for a specific purpose, and to look at these interactions holistically one needs to understand each process in the context of its relationship to other components in the system, not separately.

In the case of this study, the internal and external role-players in government that are involved with the Poverty Eradication Programme under study are considered part of the system which is being viewed in a holistic manner. Thus understanding this system involves examining the links, interactions and relationships between the components that comprise the whole system and the set of interactions.

There are certain characteristics of systems thinking that inform its application, such as the importance of boundary critique, the existence of a hierarchical structure between organizations and individuals, the interaction and specified relations between the systems' interrelated parts, the existence of emerging properties, holism and feedback loops and control.

According to Margarita and Vladimir (2014), a system contains many subsystems that are arranged in hierarchies as some components of the system are deemed to be subordinate to others depending on their authority within the system, time, sequence or some other characteristic. The task team that produced the poverty eradication programme had a convener and work-streams made up of social, economic and agricultural groups. Within the groups there were small teams that were responsible for technical work to support the overall output of the task team. Margarita and Vladimir (2014) argues that sub-systems are lower-order systems that are components of a system, and if one is removed, the system will not function properly or it will collapse. Sub-systems refer to the patterns of activity within and between them, thus, the relationships and interrelatedness between the parts of the system cause them to be sub-systems (a subsystem is thus part of a system which itself has all the general characteristics of a system) (Margarita and Vladimir, 2014).

As mentioned above, a system has specified boundaries that separate its components from the outside environment. Interaction of these components can be

horizontal whereby interaction takes place within the systems' boundary in a continuum (between its components), or it can be vertical whereby the interaction of the system with its environment is included. Interactive processes refer to the methods used to encourage interaction vertically and horizontally. The result of this interrelatedness between the parts of the system is the complexity of the system (Margarita and Vladimir, 2014). Understanding how the interactive processes encourage the various forms of interaction between the components within the system is important in understanding how the system functions.

Emerging properties refer to “those functions, attributes or behaviours, good or bad, which would not exist except for the operation of a system” (Grazzini, 2012). They result from the process of interaction between components within the boundaries of a system and are unpredictable in nature.

3.6 Feedback loops, prediction and control

Different writings (Von Bertalanffy, 1968; Sibani & Jensen, 2013; Ledford, 2015;) describe an open system as a system in which parts interact with each other and their environment to maintain their existence. The notion of 'feedback' was born out of the co-existence found in open systems. Feedback loops refer to the information related to the outputs which feed back into the system for the purpose of bringing about change of the outputs. The positive feedback loops from the environmental analysis supports change and on the other hand the feedback loops can influence change in a negative manner (Caldwell, 2012, p.152). Riley *et al* (2015, p.50) places emphasis on the ability of the feedback loops to inform decision-making thus contributing to policy interventions.

Prediction and control relates to the system's ability to head off dysfunction and survive when problems occur. Systems have a number of predictable and less predictable properties and the monitoring of system performance against expected reference standards is a key control requirement as it enables the system to correct deviations from originally desired outputs (De Toni, et al, 2011). Negative feedback loops prevent change in the system while positive loops encourage further growth.

3.7 Societal learning and change

Societal learning and change (SLC) refers to managing and changing relationships meaningfully to address persistent societal challenges. The successful management of these relationships, according to Waddell (2005), requires the realignment of relationships at a macro level between the core systems of society, including government, civil society and business. Molleman, Quinones, Weissing (2013) support the viewpoint that in relationships there needs to be a structure and realistic ecological patterns for societal learning to occur.

The SLC framework provides for a disciplined approach to dealing with managing and changing complex issues. To achieve this, Waddell (2005) advocates for a learning and change process. For individuals, this calls for mental or cognitive, motor and emotional learning and change. For groups, learning should be focused on political and socio-economic learning, as well as organizational learning and change in managing interactions and dealing with government, business and civil society organizations.

Standing (2010) writes about the development of the precariat class in society which poses huge dangers to social order. The need for adherence to social order is to be found in Joynt and Webster (2012) where they provide an exposition on how hegemony captures space, how it is contested, challenged and negotiated by social groups who no longer feel represented, who feel excluded and marginalized by society from the mainstream socio-economic activities. The precariat, which is a product of inequality, is variously described by von Holdt (2012) as being those members of society who are “below the core, who are the new legions of the proletariat, who are flirting between jobs, unsure of their occupational title, with little labour security and fewer enterprise benefits”.

Scholarly articles by various authors (Chiot, 1994; Jaffe, 1990; McMichael, 2000) point to the need for the relationships between individuals, groups and organizations to restructure themselves so as to be in a position to respond appropriately to new developmental challenges facing society. This argument aligns itself with the viable constellation model, which Surman (2006) describes as a model driven by

complexity and designed to manage multi-functional collaborations within dynamic systems. Through managing and balancing mess, chaos and order, energy and structure, the model supports multi-functional and cross- partnerships and networks within a complex system. The constellation model is mainly used for bringing together different role-players to work together towards achieving a common objective in a multi-disciplinary manner in a matrix relationship.

3.8 Public policy and co-ordination

Baker (1975) defined public policy as being “a mechanism employed to realize societal goals and to allocate resources”. In later writings such as in Dye (2012) public policy is defined as “a comprehensive framework of interactions”. In both these arguments there seems to be commonality in both what the public policy means and what it seeks to achieve. The ultimate objective of the Poverty Eradication Master Plan would be, among others, the provision of a series of interventions that address the issues of poverty and deprivation in a manner that supports the societal objective to eradicate poverty through the allocation of resources within a comprehensive framework.

Given the complex nature of public policy making and co-ordination in South Africa, Booysen and Erasmus (2007.b) proposed implementation of an integrated system that combines contextualized, cumulative and integrated sets of actions that bring together different initiatives for policy implementation, and which will ensure midstream continuous adaptations as conditions change. In a later writing, Cairney (2010), highlights the critical importance of diversity of inputs, co-production of ideas and knowledge to enhance participation and enrich the process of policy development and co-ordination. Public policy in South Africa is implemented through a range of institutions that co-ordinate different initiatives from different sectors to achieve a coherent public policy implementation approach and better results. The Presidency developed and implemented the Cluster System to co-ordinate complex

public policy development, implementation and monitoring (South African Yearbook, 2014/15).

Nationally, the South African government has configured itself in the form of clusters, combining together different government departments that have similar or related group of functions, for purposes of ensuring coherence and integration. There is the Governance and Administration Cluster, Social Cluster, Economic and Investment Cluster, Justice, Peace and Crime Prevention Cluster and International Relations and Trade Cluster (South African Yearbook, 2014/15). The country's nine provinces under the semi-federalist system, have sought to mirror the national institutional arrangements for policy co-ordination by establishing their cluster systems. Provinces though do not have International Relations and Trade clusters as this is a national competency (South African Constitution, 1996).

Further to this, the South African government has a *lekgotla* system for policy planning, co-ordination and monitoring (Presidency, 2015). '*Lekgotla*' is a Sotho word which means 'forum or gathering' (Collins English Dictionary, 2012). This system is a gathering of regional and national leadership of the African National Congress (ANC, 2015), which is the ruling party in South Africa and in the eight of the nine provincial governments (South African Yearbook, 2014/15). During the ANC's *makgotlas* (plural of *lekgotla*) which is held in January of every year, the national Cabinet Ministers, Provincial Premiers, national and provincial governments' Directors-General are invited to participate (ANC, 2015). The aim of convening the *makgotlas* is to take stock of the progress made on policy pronouncements over the previous year and decide on the policy priorities for the ANC during the upcoming year (ANC, 2015). The ANC announces its annual policy priorities during what is referred to as the 'January 8 Statement', which marks the birthday of the ANC, which was formed on the 8th January 1912 in Bloemfontein (ANC, 2015).

The ANC's *lekgotla* is followed by the National Cabinet's *lekgotla*, usually in January as well, which through a series of resolutions, translates the ruling party's pronouncements into the Government's Plan of Action which the State President

elaborates on during the annual State of the Nation Address. The National Cabinet *Lekgotlas* are held bi-annually though, in January and July (Presidency, 2015).

The national policy co-ordination scenario depicted above is repeated in the eight of the nine provinces where the ANC is the majority party, bar the 'January 8 Statement' which is a national statement (Booyesen, 2007.a). The Provincial Administrations, through their Premiers, provide a set of provincial policy priorities which are derived from the ANC's *Lekgotla*, the National Cabinet *Lekgotla* and Provincial *Makgotlas*, translated into Provincial Growth and Development Plans during their State of the Province Addresses (Presidency, 2015).

Hanekom (1987) states that "policy making is an activity preceding the publication of a goal, while a policy statement is the making known, the formal articulation, the declaration of intent or the publication of a goal to be pursued". This approach is evident when the KwaZulu-Natal Provincial Cabinet, in its bi-annual *Lekgotla* of February 2013, among other things, resolved that "there was a need to develop an Integrated Poverty Package to address the immediate concerns pertaining to food security, basic household nutritional needs and asset investment in order to create sustainability and self-sufficiency through active participation in the identified households" (KZN February 2013 *Lekgotla* Resolutions). Hanekom (1987) concludes that in its true form, public policy should be a formally articulated goal that the law makers intend pursuing with society and around which society is galvanized. In the State of the Province Address (KZN, 2013), the Premier of KwaZulu-Natal, Mr ES Mchunu, directed all provincial government departments to:

- Work with all non-governmental partners to eradicate poverty in a participatory and inclusive manner;
- Reduce, by 2020, the percentage of households that have gone hungry in a 12 month period from 35% to less than 25%; and
- Ensure, within the first year of the ruling five-year ruling term, that the Provincial Food..
- Security Strategy in line with Poverty Eradication Package, which includes the Schools Nutrition Programme and Nutrition Development

Centres, reaches at least 85 000 households in KwaZulu-Natal (KZN State of the Province Address, 2013).

Thus, public policy should consist of a goal, objective and purpose. For ease of policy implementation and co-ordination there should be a programme of action with a set of activities, roles and responsibilities and indicators of performance based on a set of goals and objectives (Presidency, 2015).

The co-ordination of public policy initiatives in South Africa is a complex undertaking because of the configuration of the national and provincial administrations in a semi-autonomous and quasi-federalist system of government (Booyesen, 2007.b). The limitations of linear strategies are clearly evident when it comes to the development of a policy programme that combines different role-players both in and outside of government. Cairney (2010) highlights that complexity science has provided policy makers with a set of instruments to create a better insight into why some challenges remain “stubborn and unresponsive” to government interventions. Complexity theory is able to provide a clearer insight and a better understanding of what is really going on in public policy development and implementation through a series of administrative strategies and plans, as it explores the relationship between rational and non-rational processes, emergent properties, self-organizing and complex adaptive systems of policy and governance systems. Having evolved from chaos theory which was seen as limited to mathematics and natural systems, complexity theory on the other hand is seen as more suitable to understand the changing behavior patterns in complex social and natural systems.

According to Meek (2010) complexity theory with its central concepts of non-linearity, emergence, self-organization and complex adaptive-systems provides a better insight with regards to dealing with the limitations of linear approaches to public policy development. Clearly, successful development of the Poverty Eradication Master Plan required that the government department sub-system, the private sector sub-system and civil society sub-system (as per Perlas [2000]) engage in dialogue to develop an integrated programme to deal with poverty in response to the national and provincial government’s policy priorities.

Klijn and Snellen (2009) argue that the system of government the world over is predicated on corporatist and performance-based practices that are influenced by theories of rational action and South Africa is no different. This is supported by the existence of a set of legislative and policy instruments derived from the constitutional mandates of the different government departments, nationally and provincially. This is even more evident when reading the Division of Revenue Act of 2014, which provides for the division of revenue according to the constitutional mandates of each of the government departments and provides for a performance framework bound by performance indicators and targets (Treasury, 2015). While the processes of public policy and governance may appear to be a linear and predictable system, it is argued that for a better understanding of the modern complex public governance and policy system a non-linear approach that looks at the functioning of the whole system should be adopted. Weber (2008) makes a case for the recognition of the role that complexity theory plays in creating a better understanding of public administration theory and practice.

According to Lane (1994) public administration theory and framework assumes predictability in the way the state's administrative machinery operates. Public administration is therefore predicated on the principle of predictability of the delivery of services by government based on citizen needs. Predictability of the type of service, standards of service and the frequency thereof are critical elements to stability of anticipation by citizens. This assumption is however fundamentally flawed. In Jackson (2003), this is classified as 'hard systems thinking' which tends to adopt a reductionist approach to social aspects of real-world challenges. 'Soft systems thinking', on the other hand, tends to be interpretative and is largely informed by social theory. Reyes (2010) states that "social conditions are not completely subjects to be quantifiable as a whole set of variables with respect to their total results (direct impacts) and repercussions or collateral effects (indirect impacts). This condition can be resolved by analyzing the whole set of evident factors as a whole using integrated social theories in non-linear systems'. Klijn and Snellen (2009) have remarked quite succinctly on the growing complexity of public administration as it grapples with the ever-changing nature of the public service and seeks to be responsive to the growing

complexity of the services that citizens require. Koliba & Zia (2011) argue for the elevation and amplification of horizontality of policy inputs which should be augmented by the procedural vertical inputs. In the case of the KwaZulu-Natal Provincial Administration, this is evidenced in the Strategic Plan documents of all the provincial departments.

Furthermore, Meek (2010) points to the non-linear nature of public policy processes, thus removing the element of predictability since policies are designed with their unique characteristics, with a unique set of role players. The centrality of the concepts of the complexity theory dealt with here such as self-organization, non-linearity, co-evolution, connective capacity, emergence, dissipative structures of government provides for a better understanding of the non-predictive and dynamic nature of the different environmental contexts within which policies are planned, designed and implemented. Morçöl (2002) suggests that emergence, dissipative structures and self-organization are concepts that help to improve our understanding of the role that complexity theory can play in creating a better understanding of dynamic policy contexts. Scott et al (2010) makes an interesting observation regarding the important role that policy analysis plays in predicting outcomes of proposed interventions by way of policy analysis in a complex system by examining the causal factors within a broader environmental policy landscape where policy issues should be more about the context than the issue itself. This critical dimension is more poignant when examining policy interventions from a complexity point of view.

Based on this increasingly complex environment of public policy and administration, recent years have seen an emergence of discussion on the role of complexity theory in addressing some of the key issues in public policy and administration. Some of the persistent challenges facing policy analysts and public administrators in the implementation of policies and programmes require a fresh approach informed by complexity theory. The very nature of public service bureaucratic culture creates inherent hurdles to resolve policy conundrums. Firstly, the complexity of the state machinery and the complex nature of societal problems are cases in point for a more

nuanced approach. Secondly, the social conditions affecting the citizens require a bureaucracy that is adaptive while working in a complex environment.

3.9 Conclusion

The discussion in the literature above on complex social systems provides invaluable lessons on the approaches that need to be adopted and altered, if the conditions demand, to improve the impact of policies on the social challenges facing the society. Though complexity science is a relatively new field, especially as it pertains to social systems and public policy, it is gaining prominence as an analytical framework. Public sector organizations are slowly refining and perfecting their approaches to complexity theory and practice.

CHAPTER 4 : RESEARCH METHODOLOGY

4.1 Introduction

According to Nicholson (2011) the term methodology in research refers to a set of methods that are used to collect data and arrive at findings that respond to the purpose of the research. Therefore the selection of methods is not random, but a deliberate and purposeful process that is guided by a particular philosophy or paradigm. In support of this view Denzin and Lincoln (2000) defined the research paradigm as being a basic set of beliefs that influence and guide the researcher's view of the world. The focus of this section is on the research methodology used in the study to collect data. The rationale for choosing the particular methodology has been argued and relevant literature to support the argument has been reviewed.

This research study employed a qualitative research design informed by systems thinking within the interpretive paradigm. The main focus of the study was to look at the processes followed in the development of the Poverty Eradication Master Plan as an intervention policy in the Province of KwaZulu-Natal through a complexity theory narrative. In a qualitative approach the stakeholders involved and the processes followed are critically important.

This study was exploratory. Du Plooy-Cilliers, Davis and Bezuidenhout (2014) describe exploratory research as a study of the unknown, where as a result of new socio-economic developments new knowledge emerges. Accordingly, this type of research is normally used for purposes of obtaining new insights into critical concepts relevant to the study, the social context, assisting in the identification of stakeholders, providing a better understanding of previously unknown situations and relevant policy frameworks.

4.2 Approach to the study

There are many adjectives and characteristic traits that the theory of complexity conjures up. Different scholars (Ackoff, 1981; Jauch and Kraft, 1986) make reference to chaos, messy, uncertainty, unpredictability, disorder, to describe the ideas that complexity theory brings to the fore.

The study assumes that the subject of poverty is complex and multidimensional. The state which is charged with providing intervention measures for people in distress is a complex organization operating within a complex web of legislative instruments, frameworks, policies, systems and processes. The solutions to this complexity are to be found within a systems thinking interpretative paradigm.

To this end, the approach to the study was exploratory and used the qualitative research methodology which allows for more social interaction with the key role-players in the process, analyzing their perceptions. According to Narayanan (2000) qualitative research allows the investigator to gain insight into people's perceptions in order to properly understand how different processes interface with each other.

4.3 Area of research

The focus of the study was on the provincial government departments that were tasked with leading the process of developing the Integrated Poverty Eradication Master Plan. These were the KwaZulu-Natal Departments of Social Development and Economic Development, Tourism and Environmental Affairs. In addition, as articulated above, the government system in South Africa works on the Cluster System where government departments that share more or less similar roles or whose line functions interface a lot with others are grouped into Clusters. The same principle is applied in the nine Provincial Administrations.

In the case of KwaZulu-Natal, for the Poverty Eradication Master Plan to be accepted as a government policy, it had to go through the Social Protection, Community and Human Development (SPCHD) Cluster for endorsement before it could go to the full Provincial Cabinet for approval. Other role-players were the

provincial government departments and selected national departments with a provincial presence, local government, state entities, Universities, Private Sector and Non-governmental organisations (NGOs). For the purposes of this research, the study will also investigate the processes within the SPCHD Cluster and the Cabinet that were followed before the Poverty Eradication Master Plan was approved.

4.4 Population

The population for the study were the officials of the government departments that were tasked with developing and implementing the Integrated Poverty Eradication Programme, as well as officials from the SPCHD Cluster and the Cabinet that were responsible for coordinating the process of consultations, inputs and approval of the policy.

In Wiid and Diggins (2013) population is defined as a group of people who because of their common characteristics will be able to provide the information necessary for the research. Du Plooy-Cilliers, Davis and Bezuidenhout (2014) describe this as 'population parameters' because of the unique and shared characteristics of the group. However, within the population parameters there is a target population which is broad and includes everybody who has the shared and unique characteristics. For practical purposes the larger group becomes unmanageable. In this regard, Du Plooy-Cilliers, Davis and Bezuidenhout (2014) talk about 'accessible population', which refers only to the specific section of the population that will be targeted for the study.

4.5 Sampling

For the manageability of the study it was necessary to limit the size of the population. The reduced number of the population becomes the sample, or more precisely, elements of the sample (Du Plooy-Cilliers, Davis & Bezuidenhout, 2014).

Non-probability sampling was used during the study which is the careful selection of a sample from the accessible population (Pascoe, 2014). Writings by authors in research methodology such as Du Plooy-Cilliers, Davis and Bezuidenhout (2014)

argue that the representativity of the sample in non-probability sampling is not regarded as critical in qualitative research, unlike in quantitative research. Accordingly this assertion is located firmly within the purposive sampling domain, where elements of the sample are carefully chosen and selected on the basis of their unique characteristics. According to Bless and Higson-Smith (1995) under the purposive sampling method the researcher has a prerogative and uses his or her judgment regarding the set of unique characteristics that the sample elements possess to qualify for selection. The researcher's judgment is to a large extent supported by the relevancy, appropriateness and usefulness of the information from the sample informants in helping to elucidate the vexing research question. Those that are not deemed relevant are discarded.

The choice of elements during the research was driven by the role that each department played in the process of developing the Poverty Eradication Master Plan. As per Provincial Cabinet Resolution of July 2014, the Departments of Social Development and Economic Development, Tourism and Environmental Affairs were tasked with convening the Task Team on Poverty Eradication to design the provincial policy. However, since the challenge of poverty was regarded as generally a social issue, the Department of Social Development was mandated to spearhead the formal processes of getting it through the approval processes. This informed the purposive sampling that was used in choosing the Department of Social Development as an element of the sample.

Senior officials at the level of Directors and Deputy Directors, both at the Department of Social Development and the Office of the Premier were identified as elements of the sample since they were sufficiently located in the value chain to lead the processes of the development of the Poverty Eradication Master Plan and in others they were custodians of the information required for the research.

4.6 Research design

Some of research methodology writers (Mouton, 2001; Pilkington & Pretorius, 2015) describe research design as the plan that the researcher uses to conduct the research study. He explains that the focus of the research design is such that it is focused on the desirable final product. The researcher has to develop strategies, methods and tools to achieve the required end product.

The design of the study was influenced by the empirical research traditions that are described in Mouton (2001) as qualitative in nature whose objective is to produce and deepen the understanding of a group of people, a process or a community. This type of research design is classified as empirical design as it mainly uses primary textual data. The main research questions were exploratory and descriptive.

The study made use of the humanistic-interpretative meta-theory to describe the processes involved in the conceptual design of the Poverty Eradication Master Plan and the steps followed during the approval stages. The study was located within the realm of phenomenology as it is concerned with the accounts of the people who 'lived' the experience. The definition of phenomenology can be found in writings such as those by Welman and Kruger (1999) and Husserl (2012) who described phenomenology as "the process which is concerned with understanding the social and psychological phenomena from the perspective of people who lived the experience". It appears that phenomenology has to do with reality and this is where absolute data originates, as it is concerned with the experiences of people who were involved in the matter being researched.

The design of the study was based on the qualitative approach. These are discussed further and in more detail in the section below.

4.7 Research methods

Qualitative research methods allow the researcher to study selected issues in depth and in detail as they identify and attempt to understand the categories of information that emerge from the data. The researcher tends to become more involved with the

phenomenon (Welman and Kruger, 1999) that they are investigating. Literature analysis in the form of 'a moment in time' assessment (Maree, 2007) of statistical data will be conducted. This will be a typical 'snap shot' look at the poverty statistics thus echoing the sentiments of Mouton and Marais (1994) that with this kind of approach to quantitative studies, the researcher adopts a more distanced position to the research.

Qualitative research studies are designed to discover what can be learned about some phenomena of interest, particularly social phenomena where people are the participants, thus the outcome of any of these studies is not the generalisation of results, but rather, a deeper understanding of experience from the perspectives of the participants selected for study (Mouton & Marais, 1994).

According to Yin (2003: 2) "the distinctive need for case studies arises out of the desire to understand complex social phenomena" because "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events". The use of the case study method was employed to help improve the understanding of the complex nature of policy-making and co-ordination by providing an opportunity to gain a holistic view and understanding of the government's policy-making machinery. Yin (2003: 83, 85-96) argues that there are six possible sources of evidence for case studies: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts. During this research study there was extensive literature and document review to gain enough theoretical and practical understanding of the public policy process and how complexity theory can be applied in the public policy context. There were semi-structured interviews conducted with the key role-players in public policy within the poverty alleviation context in South Africa in general and with specific reference to the Province of KwaZulu-Natal, and participant-observation research of selected stages of the policy life cycle.

4.8 Data Collection

Data collection during the study was qualitative as the research sought to understand the lived social experiences of the participants. Qualitative data collection methods were used to “obtain a richness and depth of data, gathered from complex and multi-faceted phenomenon in a specific social context” (Du Plooy-Cilliers, Davis & Bezuidenhout, 2014).

The methods used to gather data in this study included literature and document reviews, participant-observation and semi-structured interviews with individuals who are officials in the Department of Social Development and the Office of the Premier responsible for the co-ordination and the development of the Poverty Eradication Master Plan, the activities and processes of the Social Cluster and the Provincial Cabinet.

Extensive review of literature relevant to public policy, systems and complexity theory was undertaken. A selection of writers on public policy (Hogwood & Gunn, 1984; Booyesen, 2007; Dye, 2012;) and on complexity theory (Ackoff, 1981; Checkland, 1981; Gleick, 1997; Jackson, 2003; Geyer and Rihani, 2010, Stacey, 2010) as well as poverty alleviation discourse (Alcock, 1997; Saunders, 2004; Ife & Tesoriero, 2006; Ikejiaku, 2009; Mkandawire, 2010) was undertaken on the basis of the relevancy of their arguments to the research study. Included in the review was the interrogation of documentation pertaining to the processes followed in the development of the poverty eradication programme as the provincial government policy.

Data collection was undertaken in three different phases as outlined below.

4.8.1 Phase One: Document study

During phase one of the research process documents relevant to the study were consulted. Mouton (2001) and Henning (2004) define documentary data collection as collection of information relevant in the research that can be found in speeches,

annual reports, business plans, official memoranda, diaries and letters. Du Plooy-Cilliers, Davis and Bezuidenhout (2014) describe the document study or content analysis phase as that in which the researcher is interpreting social or historical artefacts with the intention of providing a rich account of the social reality as contained in the text being studied.

Existing documents on poverty alleviation in South Africa in general, and in the Province of KwaZulu-Natal in particular, were analyzed in terms of their contribution to the research. The documents studied included statutory legislative and policy frameworks, strategies, ministerial directives, official statements, strategic plans, annual performance plans, official records, etc. Documents studied included the Constitution of South Africa, 1996, the National Development *Vision for 2030*, Medium Term Strategic Framework (2015-2019), Strategy of Household Food and Nutrition Security, the Integrated Poverty Eradication Programme which later became the Poverty Eradication Master Plan for KwaZulu-Natal, the Strategic and Annual Performance Plans of various provincial government departments in KwaZulu-Natal that are responsible for the implementation of the poverty alleviation programmes, official records of meetings, etc. Access to some of the official records required gatekeeper permission, which was granted. During this phase data was coded according to themes and patterns as they emerged during the document study.

In dealing with the potential bias from official documentation, interviews were conducted with selected key informants, in Phase Two.

4.8.2 Phase Two: Semi-structured interviews

Semi-structured interviews are valuable in that they allow the space for the researcher to clarify participant answers and probe further into specific lines of enquiry (Nieuwenhuis, 2007). The case study method was used as a tool to collect data from respondents relevant to the case of the Poverty Eradication Master Plan and processes followed in its development.

Literature sources (Chetty, 1996; Yin, 2013) describe the case study method as an essential tool for social sciences and management research, and has over the years been found useful as a descriptive, exploratory or explanatory method or used to test or generate theory. This view is further emphasized by authors such as Stake (2008), Gomm, Hammersley and Foster (2000) and Mouton (2001) in that the case study method gives a 'voice' to the people rather than merely looking at them as samples, numbers or respondents, as it allows the researcher to capture the uniqueness of the case rather than the generalized and mechanistic view.

The case study has over the years evolved and is now regarded as more than just a method but as bringing to the fore the underlying assumptions about how the world should be viewed. It allows the researcher to look at social issues from a constructivism and interpretivism point of view. Notable writers (Stake, 1978; Flyvbjerg, 2006; Yin, 2013;) contend that the case study method will remain popular as it is a practical method for researchers to apply interpretative, explanatory, explorative and descriptive methods in various social enquiry studies as it provides opportunities for rigorous description of real-life scenarios. It remains a sound phenomenological, interpretative and constructionist tool for social research

Semi-structured interviews were employed in this research for the purposes of deepening the understanding of the systems of relationships between policy, programmes and the complexity thereof within the government setting. The interviews were aimed at deepening the level of understanding, allowing for the deeper exploration of the themes that had already emerged from the literature and the document review, including observations. The issues to be investigated during the semi-structured interviews were grouped in themes prior to interviews being held. The themes were:

- The reconstruction of the narrative of the processes followed in the development of the KwaZulu-Natal Poverty Eradication Master Plan in a complex environment of government policy frameworks;
- The delineation and description of how the different provincial, selected national departments and state-owned enterprises with specific mandates

were brought together to pursue a common objective through a network of relationships; and

- How the complexity theory was used to elucidate the different processes and steps followed in the development of the KwaZulu-Natal Poverty Eradication Master Plan as a policy of the provincial government.

The interviews were structured around the questions indicated in Table 2.2

Table 4.1: Topics to be covered

Topics to be covered	Questions to be asked
1. To reconstruct the narrative of the processes followed in the development of the KwaZulu-Natal Poverty Eradication Master Plan in a complex environment of government policy frameworks	<ul style="list-style-type: none"> • Provide a narrative account of the processes followed in constructing the KwaZulu-Natal Poverty Eradication Master Plan.
2. To delineate and describe how the different provincial, selected national departments and state-owned enterprises with specific mandates were brought together to pursue a common objective through a network of relationships.	<ul style="list-style-type: none"> • Describe the processes involved in bringing the different national, provincial government departments, local government, traditional leadership, non-governmental organisations, state-owned enterprises, research institutions, private sector, etc together to discuss and make inputs into the Poverty Eradication Programme Master Plan
3. To use complexity theory tools to elucidate the different processes and steps followed in the development of the KwaZulu-Natal Poverty Eradication Master Plan as a policy of the provincial government.	<ul style="list-style-type: none"> • What are the structure/s that co-ordinate the Poverty Eradication Master Plan, the involvement of key Government Co-ordinating Clusters and the Planning Commission, the reporting mechanisms to Cabinet and frequency thereof

The use of complexity theory in examining the processes involved in the development of the Poverty Eradication Master Plan underlies the fact that the subject in itself is complex. The concept of ‘complex adaptive system’ (CAS) in this instance were critical in that it enabled the researcher to understand the dynamic interactions of the agents who were involved in the process. Klijn and Snellen (2009) remarked that state institutions at various levels are managed and behave in predictable and corporatist manner because their role and responsibilities, performance standards, performance outcomes, etc. are predetermined

mechanistically. The emergent properties of CAS (Jackson, 2003) point to non-linear and unpredictable outcomes of a set of actions which is influenced by the conditions in the environment, the interdependence of elements of the system or parts of the system.

4.8.3 Phase Three: Observation

Henning (2004) describes observation in research as gaining a 'first-hand experience' by the researcher during the activity of gathering information. This is precisely because the researcher has a 'frontline seat during the action.' According to Nieuwenhuis (2007: 84), "Observation is an essential data gathering technique as it holds the possibility of providing us with an insider perspective of the group dynamics and behaviors in different settings".

There are differing roles of researchers in observation techniques depending on the influence the researcher hopes to provide. For the purpose of this research, the researcher's role was that of an observer. Nieuwenhuis (2007) asserts that the researchers' role in this instance is to remain uninvolved so as to not influence the dynamics of the setting. The intention of the researcher was to observe certain patterns of behavior in a particular setting in order to understand the social dynamics, yet attempted to remain unobtrusive to the other participants. The observations that were conducted were mainly the official meetings to discuss the implementation strategies of the poverty alleviation programmes.

4.9 Data Analysis

De Vos, Strydom, Fouche` and Delport (2011) define data analysis as the process whereby the researcher brings order and structure and provides meaning to the otherwise mounds of data that is unorganized. In conducting data analysis, Merriam (2009) suggests the development of units of analysis or codes according to themes. Once this is done, the codes and themes are then grouped into categories and analyzed in relation to the literature. Finally, themes can be formed for the specific

categories. Thus the data analysis consisted of a deductive approach using themes developed through constantly looking for similarities and differences, for groupings, patterns and items of particular significance.

Since the study also included collecting data from a variety of documents as explained earlier on, there was an analysis of this data using the themes that had emerged during the readings. The data analysis was also based on the summary of the transcripts of the recorded semi-structured interviews with the respondents, including the follow-up questions that sought further clarity, confirmation of assumptions, emphasis on specific aspects that had a direct bearing on the study. The main aim of the observations was to gain an understanding of how the different role-players acted in the natural and real-life situation of their daily working lives as they went about interpreting and integrating the provisions of the Integrated Poverty Eradication Master Plan into their operational plans, budget plans and how accountability was managed.

4.10 Ethical Issues

Participants within the study were asked to sign an ethical consent form after they had been thoroughly debriefed on their rights during and after the research process. The consent form and debriefing was meant to ensure that participants were aware of what the research entailed. A considerable amount of time was spent with the participants in order to discuss all the aspects of the research to ensure there were no unfulfilled expectations on the part of the participants. It was also made clear to the participants that they had the right to withdraw from the research at any point during the research process with no negative repercussions accruing to themselves. The methods and instruments used to collect the data for the research were designed in such a way as to ensure that no harm or embarrassment would come to the participants, as well as ensure that the process was as stress-free on the participants as possible.

Participants in the research were assured that all of the information gathered during the research process would remain confidential, and if need be, pseudonyms would

be used to ensure anonymity of the participant responses. Participants were also informed about the significance of the research in terms of disseminating the insights gained from the research widely to inform further practice and improve the understanding the poverty eradication programme from a systems approach and complexity point of view.

4.11 Limitations

Public policy is a very wide topic from a research point of view. Therefore, consideration was given to a particular focus on the system used to co-ordinate government policy with specific reference to the Poverty Eradication Master Plan. This qualitative research study was specifically focused on the KwaZulu-Natal Province.

One of the limitations of a study of this nature was the difficulty to generalize the results based on a single case, hence the multiple cases of poverty alleviation interventions that formed parts of the elements of the broader Poverty Eradication Master Plan. The examination of the different constituent elements as parts of the wider systems approach to the poverty eradication study provided an opportunity for rigorous interpretation of data and of addressing the potential for bias. As much as Hadley and Mitchel (1995) regard the semi-structured interview method data collection and analysis as long and time consuming, it was necessary to go through the whole process. This limitation could not detract from the inherent strengths of the semi-structured interview method in providing in-depth insights from the respondents which was achieved through gaining trust with the research informants as well as the high construct validity of the research itself.

4.12 Conclusion

The choice of appropriate research methods for any scientific study is an important step in the journey of discovering underlying causes, especially of a social science phenomenon. The effective use of such instruments is critical so that the epistemological findings are sound and help in advancing scholarly objectives. This

especially true for the emerging field of complexity science based analysis and planning in the public sector.

CHAPTER 4: DATA ANALYSIS AND FINDINGS

4.13 Introduction

This chapter is dedicated to data analysis and the presentation of findings. The research study was a qualitative one and therefore data analysis was guided by qualitative data analysis methods. In this chapter an overview is provided on how the data on the poverty eradication, complexity and public policy theories was collected from the different sources, primary and secondary. The chapter also deals with the emerging complexity of designing the poverty eradication programme within a complex public policy environment and the systems thinking approach in designing the institutional mechanisms and arrangements for the co-ordination of the poverty eradication programme. The section also deals with the methods that were used for data analysis and presents the findings in the context of the literature sources as reviewed in Chapter Two.

4.14 Data collection

Data collection was conducted through extensive document reviews, semi-structured in-depth interviews and observations. This exercise was carried out over a period of approximately twelve months.

The process of data collection through document reviews included extensive consultation of multiple sources, both primary and secondary. These included primary source documents such as speeches, minutes, resolutions, memorandum and secondary sources such as policy documents, presentations, strategic plans, annual performance plans and reports. The former served the purpose of identifying the original discussions, minutes and or resolutions regarding the work that needed to be done on poverty alleviation, while the latter provided a sense of the extent to which the different government departments planned for the implementation of the poverty alleviation programme.

An interview was conducted with the Manager who was responsible for convening the Task Team on Poverty Eradication and leading the Social Protection Workstream which was pivotal in developing the poverty eradication programme and leading the process of taking it through the different stages of consultations and approval. In addition, interviews were conducted with Managers of the Social Cabinet Cluster and the Cabinet respectively, for their insight into the processes involved in the approval of the poverty alleviation programme.

4.15 Data analysis

The text analysis method was applied in this regard since the study is a qualitative one. It was an interpretivist and phenomenological approach in that it interpreted meaning from the emerging themes, and also tracked the phenomenon of poverty through various stages of definition, characterization, diagnosis and designing of intervention measures through the reconstruction of the narrative. There are various interpretations and meanings that can be derived from text which is described in Bezuidenhout and Cronje (2014) as being the “form and content itself” derived from interviews, language, images or multimedia, and refers to text as “anything we produce as an interpretation of something’s meaning”. This is a data gathering process, mainly textual data, with some statistics, thus straddling between qualitative and quantitative data analysis. The data sources during the research ranged from document review, to transcribed notes from the recorded interviews, to notes taken during the observation.

Bezuidenhout and Cronje (2014) emphasize the critical importance for the researcher of repeating the analysis and interpretation in continuous cycles as the process of data analysis unfolds in order to “identify and isolate embedded meanings of the text under investigation”. This iterative process and cyclical analysis of textual data provides the researcher with opportunities for identifying emerging trends of meaning from the themes and text under investigation. The process of identifying emerging trends and deriving meaning from the text can be located within the hermeneutic approach to data analysis. In Neuman (2003) the hermeneutic approach is described as a process that involves a detailed examination of images, recordings of interviews or transcriptions thereof and text to interpret and discover meaning. Clarke (1994) refers to the hermeneutic approach as a continuous and iterative interfacing of meaning of text, and Littlejohn (2002) explains that the general process in the hermeneutic approach to data analysis is both deductive and inductive, meaning, it moves from the general to the specifics or from the specifics to the general. In this instance, the approach moved from the general to the specific since it is a deductive approach. Hermeneutic analysis is grounded in the philosophical foundations of interpretivism and constructivism.

The general criticism against the hermeneutic approach is that it is subjective. Indeed, the objective of qualitative research is broadly to study the real-life subjective experiences of the participants which is unpredictable since there are inherent human behavior biases that cannot be avoided (Bezuidenhout & Cronje; 2014). This does not mean that the qualitative research using the hermeneutic approach to analysis is unscientific. The process of data analysis and interpretation remains grounded in rigour and is systematic.

4.16 Findings

In dealing with the findings of the study, the Soft Systems Methodology in the form of CATWOE was used.

4.16.1 CATWOE as a Soft Systems Methodology

CATWOE (Customers, Actors, Transformation, World view, Owners and Environmental constraints) is a Soft Systems Methodology (SSM) that has techniques that focus on defining critical elements of a system from a particular perspective (Baden, 2003; Flood, 2010). In Checkland and Scholes (1999) CATWOE is described as a tool or technique used to “explicate different properties” which means taking the underlying assumptions to their logical conclusion. This means that SSM can be used to disentangle complex programmes with multiple variables, multiple goals and multiple stakeholders.

The process of applying the CATWOE tool of analysis was iterative and cyclical guided by hermeneutic principles.

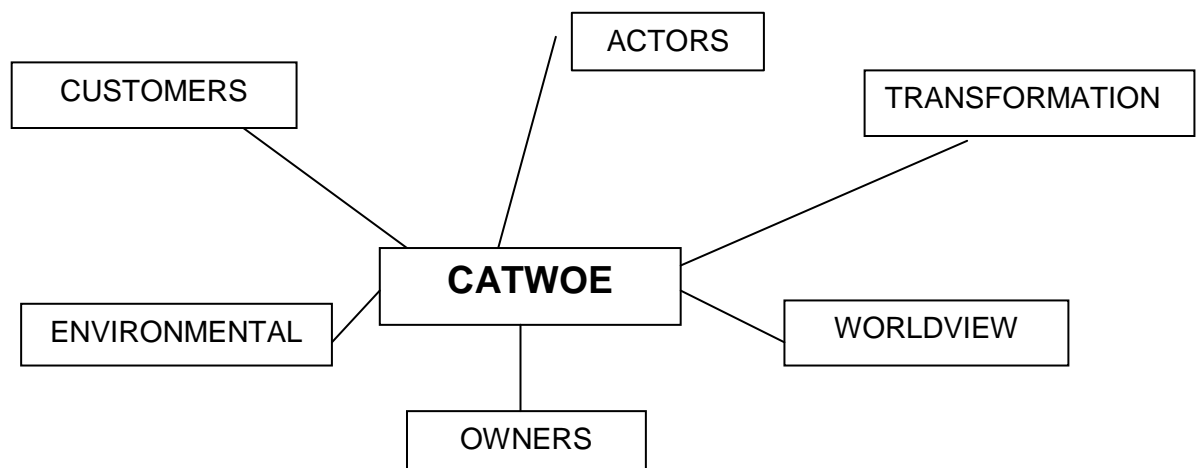


Figure 5.1: The CATWOE model of analysis

Figure 5.1 illustrates the relationship of the various elements of the CATWOE.

The acronym CATWOE is explained below:

- C = Customer/Client – who are the customers or clients of the programme
- A = Actors/Agents – who are the actors or agents?
- T = Transformation – How will the programme transform the conditions?
- W = World View – what is the bigger picture that the programme addresses?
- O = Owner – who are the owners of the process?

- E = Environment – what are the environmental (political, economic, social, technological, legal) factors that might hinder the programme?

4.16.2 Application of CATWOE as Soft Systems Methodology

The study applied **CATWOE** as a Soft Systems Methodology to analyse the findings as follows:

Customer/Client:

- In terms of the Poverty Eradication Master Plan, the intended customers/clients for the intended poverty eradication as an intervention are the people living in poverty in the Province of KwaZulu-Natal. The cohort of people dependent on state grants or nothing and people with high levels of food insecurity.

Actors/Agents:

- The actors or agents in the whole process are the political leaders, the officials from the different government departments, the institutions of higher learning, public entities, private sector, traditional leaders and civil society. These are the multi-disciplinary stakeholders, who should be managed through strong partnership models to achieve the intended objectives through a matrix relationship with clear roles and responsibilities.

Transformation:

- The interventions contemplated in the Poverty Eradication Master Plan are aimed at transforming the lives of the intended customers in a manner that is tangible and makes a difference in their lives. The different variables of poverty are taken into account in the application of the provisions of the Poverty Eradication Programme. This addresses other causal factors of

poverty, thus addressing the otherwise simplistic approach of apportioning 100% causality to a single variable.

World View:

- According to the Poverty Eradication Master Plan, the planned interventions fit into the bigger picture of addressing inequality, poverty and unemployment. The impact of the interventions in terms of the bigger picture do address the other variables of poverty in the sense that once the issues of food security are addressed, the interventions can move to the issue of providing income opportunities and the other interventions as contemplated in the Poverty Eradication Master Plan.

Owner:

- In Soft Systems Methodology the actual owner of the process should be the customers or beneficiaries as opposed to being the government. Instead the government should be the provider of a service to the owners. The owners can help or frustrate the process if they are not happy with the services. In the case of the Poverty Eradication Master Plan, the owners of the process are the intended beneficiaries or clients of the programme. This is done through community participation in the identification of the beneficiaries in the different Wards through the Operation *Sukuma Sakhe* structures established by government with the communities to address issues of poverty in the province of KwaZulu-Natal.

Environment:

- Finally, the environmental factors (political, economic, social, technological, legal, environmental) that might be hindrances to the envisaged interventions must be constantly analysed and evaluated for the potential threat that they might pose to the implementation of the programme.

The findings indicated that there had been a series of poverty eradication initiatives by the different government departments, municipalities and private sector since 1994. During the last 20 years there were a number of policy pronouncements and programmes that were aimed at improving the capacity of the state to facilitate the creation of jobs and elimination of poverty. These included the Reconstruction and Development Programme (RDP, 1994), the Growth, Employment and Redistribution plan (GEAR, 1996), the Accelerated and Shared Growth Initiative of South Africa (ASGISA, 2006), the New Growth Path (NGP, 2010), the National Development Plan (NDP, 2011), War on Poverty (2008), the ANC Election Manifestos (2005; 2009 and 2014), the KwaZulu-Natal Provincial Growth and Development Plan (PGDP), the KwaZulu-Natal Integrated Poverty Package (2013), the Operation *Sukuma Sakhe* Programme (OSS) (a unique KwaZulu-Natal approach to fighting poverty), the Medium Term Strategic Framework (MTSF 2005 – 2009; 2010 – 2014; 2015 - 2019), the Zero Hunger Programme (2012), Social Security Act (2004), the Integrated Nutrition Programme (Department of Health, 1995), the KwaZulu-Natal Comprehensive Agricultural Support Programme (2004), the KwaZulu-Natal Agricultural starter-pack programme, the Expanded Public Works Programme and the National School Nutrition Programme (STATSSA Poverty Eradication Task Team Presentation, August 2014). These were however not integrated and not coherent and therefore did not achieve the required outcomes. What was required was an integrated and comprehensive response to the challenge of poverty (Poverty Eradication Task Team Presentation, August 2014). This view is supported through the writings of Chirot (1994), Jaffe, (1990), McMichael (2000) and Surman (2006) on the need for different role-players to form partnerships in dealing with the complex societal problems, and through the constellation approach in bringing together different stakeholders in a complex system to address complex issues in a cross-functional matrix relationship.

Respondent 1, 2 and 3 all indicated that there had been attempts provincially to develop an integrated poverty eradication programme since 2009. These attempts were not successful because they were driven by the Social Cluster Departments (Social Development, Education, Health, Arts and Culture, Sports and Recreation

and Human Settlements) alone. Other Clusters were not part of the initiative. Respondent 3 said: *“From 2013 onwards the Poverty Package was developed by the Social Cluster Departments under the leadership of the Department of Social Development and was approved by the Provincial Cabinet and renamed Integrated Poverty Package.”* The coordination of the Integrated Poverty Package was then moved from the Social Cluster to the Office of the Premier for oversight, better coordination and integration across all departments and monitoring thereof (Provincial *Lekgotla* Resolutions, August 2014).

From an integrated and comprehensive response to poverty eradication point of view, and from a complexity point of view, it is clear that the Integrated Poverty Package needed to include more government departments, particularly those that are in the Economic Cluster (Agriculture, Economic Development, Transport and Public Works), as well those in the Governance Cluster (COGTA, Treasury and Office of the Premier) (Respondent 2, p.1). The Cabinet resolved that given the complex nature of poverty and the need for the different role-players to play a significant role in the framing and implementation of the interventions there needed to be a broader task team to include not only the departments mentioned above, but also to bring in academic institutions, the private sector, state-owned enterprises, local government and non-governmental organizations (Cabinet Resolution, 24 July 2014). In terms of this resolution, the broadened Technical Task Team was to be led by the Head of Department, Department of Economic Development (Economic Cluster), and consisted of the Department of Social Development (Social Cluster), Department of Agriculture and Rural Development (Economic Cluster), the Department of Cooperative Governance and Traditional Affairs and the Office of the Premier (Governance Cluster). From the task team composition, it is clear that the need for integrating all clusters in the province was critical.

The Technical Task Team had to adopt the Operation *Phakisa* approach which had been launched by the State President for the Ocean Economy. It has since been used to stimulate other sectors as well. Operation *Phakisa* was an adaptation from a Malaysian Model which is a results-driven approach with clear sets of targets, roles and responsibilities and results. The word *Phakisa* is derived from the Sotho

language, and means 'hurry up'. The adoption of the Operation *Phakisa* approach was to be driven through the Laboratory (LAB) Model, also an adaptation of a Malaysian approach to economic transformation. The LAB Model meant bringing together all the identified role-players to a 'laboratory' to table, discuss, debate and 'experiment' with a variety of ideas until a workable solution to poverty is found.

Respondent 1 (p.1) said: "*The LAB was convened over a period of six weeks at a very secluded place away from all disturbances to resemble a laboratory ... The LAB helped in the diagnosis of the problem, the extent and depth of the problem and the possible solutions. It was a complex process trying to get a convergence of the very varying views.*" Kurtz and Snowden (2003) suggest that where there is evidence and a history of non-achievement or poor results, a lot more focus should be paid to the issues that create complexity in the system and these issues be addressed in the initial policy discussions. This approach means, according to Townsend (2012), identifying complex policy issues very early on in the policy discussions.

4.17 The rich picture

In order to make sense of the dense and raw data obtained during the document review, interviews and observation, the rich picture as a tool to graphically represent the information and interpret the data was used. Checkland (1981) in his soft systems methodology (SSM) defines the rich picture as a graphical technique or methodology used to interpret complex data or information. It represents an analysis of the problem and the environment surrounding the problem. In Lewis (1992) the rich picture is defined as an 'interpretivist technique' where an investigator uses the rich picture to derive meaning, to make sense of an otherwise messy situation and then textually interpret the situation as represented pictorially. Bronte-Stewart (1999) and Williams (2010) describe the rich picture as a tool more appropriate to use during the enquiry and analysis stages of the study, and more so because it is more in tune with human behaviour.

Based on the above definitions of the rich picture, and for the purposes of this study the rich picture was used as symbols, texts and pictures representing a complex

situation as depicted through textual analysis from the various documents consulted and from the transcripts of the interviews. As it can be observed from Figure 2.6, the rich picture represents the causes and effects, the relationships between different variables, the connectedness of the different elements and parts that make up the system.

This rich picture was used to identify the complex relationship between the various elements and parts within the broader system of government policies. It sought to identify the structures within the system as well as the processes that influence policy design and implementation.

Figure 5.2: Rich picture government system



Depicted in the rich picture, based on the data gathered through document review and interviews, is the detailed representation from the human experience and behavior of life in general in South Africa, the institutions, the relationships and inequality. The rich picture has the Union Buildings, which represents the government or the role that government plays in coordinating policy programmes across all the nine provinces in the country. From Respondent 1, it is clear that government plays a central role in driving policy agenda, policy programmes, the allocation of resources, monitoring and evaluation of programmes. In describing the role of government in relation to the development of the poverty eradication programme, Respondent 1 said: *“As much as it was a multi-stakeholder process based on partnership, the government as the owner of the policies as mandated by the Constitution had to drive the process of the defining the problem, diagnosis of the problem, designing the intervention programmes and identifying institutional arrangements for the coordination of the programmes, including resource mobilization and allocation.”* (page 1)

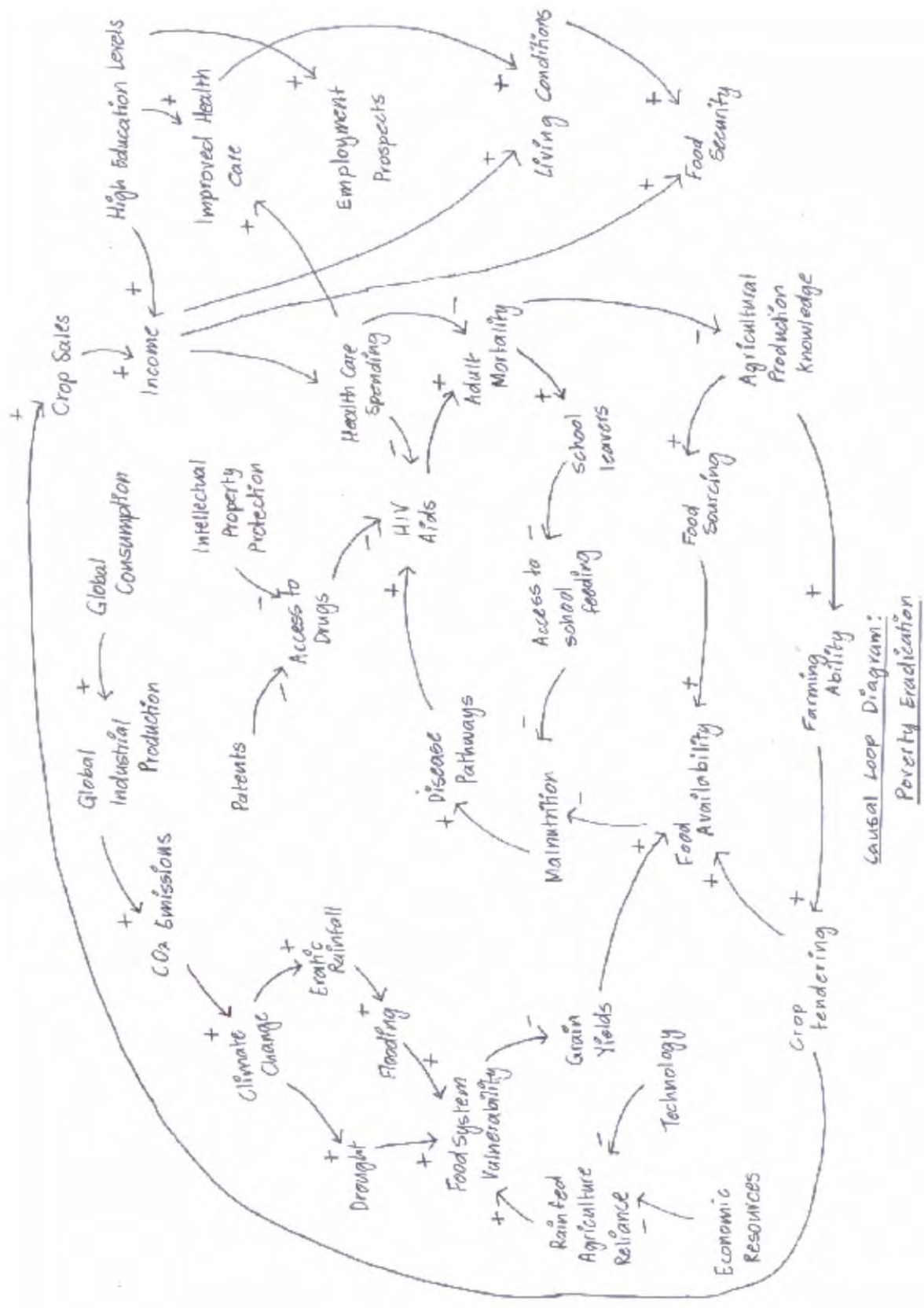
The rich picture indicates that the people under observation produce food under very trying conditions as their farming methods look very rudimentary and lack sophistication. It appears as if the farmers are small scale and therefore their farming is subsistence.

Gathered from the variety of data sources, the rich picture shows rudimentary living conditions, in some respects informal housing, poor sanitation and general poverty. This is contrasted with affluent living conditions on the other hand in a suburban environment, playing sports and other leisure activities and with access to private healthcare facilities. The analysis of these contrasting conditions indicate high levels of inequality and high levels of poverty. Furthermore, the rich picture highlights public social services such as schools and clinics that are in poor condition and overcrowded. This in stark contrast to the private services that look pristine and with high quality services.

4.18 Causal loops

The interview with Respondent 1 indicated many interlinks between the different variables that cause poverty or interventions that might help eradicate it. The responses from Respondent 1 elucidated many causal links and loops that connect the different variables. Some of the systems thinking authors (Kim, 1992; Senge, 1994) have described the causal loop as a tool that helps in understanding complex managerial problems by looking at the entire system as opposed to looking at individual parts. Jackson (2003) views causal loops as part of system dynamics theory with a range of variables in a complex system that provides a feedback mechanism through a series of positive and negative feedback loops. This view is supported by Schaffernich (2010) who describes causal loops as a 'qualitative diagramming language' used to provide feedback. This interaction helps understand the systems relationship, the interrelationship with the environment, and the cause and effect of particular phenomenon. In dealing with a complex subject such as the poverty eradication programme, the use of the causal loop tool provides a technique of dealing with the different overarching variables that constitute the subject of poverty.

Figure 5.3: Rich picture causal loops



The causal loops diagram represents the interconnectedness between the different variables that cause poverty in an expanded definition of poverty that includes educational levels, employment, income, food security, living conditions and health conditions. The diagram is illustrative of Respondent 1's comment when he said: *"The adopted definition for the poverty eradication programme had to look at all causal factors to be able to decisively and in an integrated manner deal with all the root causes of poverty,"* (page 2).

The causal loops illustrate the point that the causes of poverty are many and varied and cannot be ascribed to one source. The diagram points to a number of variables that cause poverty. These variables range from world financial markets, the currency exchange rates, climate change, access to modern farming techniques, access to markets, education, employment and income, health, etc. If the variables are so varied, it therefore means that the responses that seek to address this complex challenge have to be diverse, comprehensive and integrated.

To this Respondent 1 said: *"This was a very complex subject, the environment was complex as it brought together role-players from diverse backgrounds with different ideas. The process was complex, it involved long hours of presentations, discussions and debates. What helped was that there was a pre-determined definition of poverty, otherwise agreeing on the common definition would have taken a toll on the participants and consumed the precious time that was allocated for this project. We used the functional construction approach as a nexus that held the process together by bringing together diverse views to a common view point and understanding,"* (page 3).

During the interview Respondent 1 was asked about the leadership of the whole process of Operation *Phakisa* in a LAB format. Respondent 1 said: *"Since the Technical Task Team was approved by Cabinet and that it be led by a very high ranking official, the Department of Economic Development Head of Department, it had a lot of powers. The team was divided into five streams or pillars that were going to develop implementation plans. Each stream or pillar had a convener who was mandated to drive the process of developing implementation plans with a core team*

of people from different government departments, public entities, research institutes and higher education institutions. Other inputs were sought from other role-players who were invited to the LAB on an ad-hoc basis. Other Heads of Departments would visit the LAB team on a regular basis to check progress and to provide support. The Premier of KwaZulu-Natal, Mr ES Mchunu with some of the MECs visited the LAB team to take stock of the progress and to provide further guidance,” (page 3).

In looking at the comments by Respondent 1, there is a realization that the process of developing the poverty eradication programme was driven at a very high level. The fact that it had a political champion in the form the Premier of the Province meant that the support for its success was never in doubt. This high level support of this process by the Premier galvanized the Provincial Executive Committee of the Members of the Executive Council (MECs) to provide political leadership to their respective departments to support the process. The Heads of Departments had to provide technical and administrative support and inputs in the development of implementation plans to support the pillars of strategic interventions. In many instances, the grand programmes and policies of government fail to see the light of the day because they do not get support from the top echelons of departments. In the case of the poverty eradication programme it was observed that this was not the case.

4.19 The Poverty Eradication Programme Master Plan Pillars

As indicated above, the Provincial Cabinet had, in 2014, approved the Integrated Poverty Package. The reconstituted Technical Task Team on poverty which included all other cluster departments in addition to the Social Cluster, agreed on the new name of the programme. It became the KwaZulu-Natal Poverty Eradication Master Plan. Respondent 1 said: *“It comprised of five pillars, namely the Social Security and Human Settlements, the Agriculture, the Enterprise Development, Employment Creation and Skills Development Pillars. Each pillar had a detailed implementation Plan. Each pillar had a champion who is a specialist in the field to guide the implementation process,”* (page 4).

The consultation of the KwaZulu-Natal Poverty Eradication Master Plan confirmed that indeed it had five pillars as indicated by Respondent 1. Each pillar had a detailed implementation plan that outlined what needed to be done in each of the pillars. The different government departments would then study the Poverty Eradication Master Plan, identify their niche areas and develop plans to implement the provisions of the Master Plan as they related to their core functions. These key niche areas for each government department were regarded as ‘Game Changers’, as they would be the face of the poverty eradication programme and they would change the lives of people living in poverty for the better when implemented.

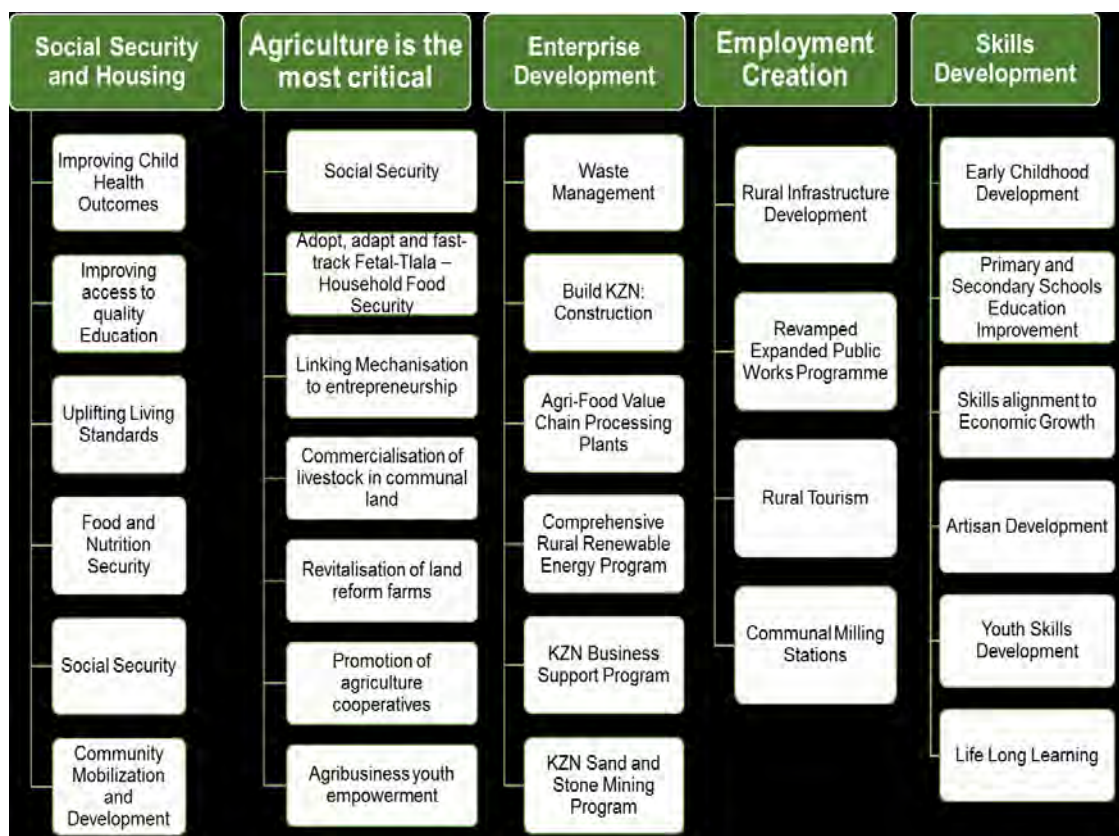


Figure 5.4: KwaZulu-Natal Poverty Eradication Master Plan Strategic Pillars

Source: Poverty Eradication Master Plan, 2014

One of the key weaknesses in any policy is the implementation part. The study sought to establish the mechanisms that were put in place to ensure that this programme was implemented. Respondent 1 described the institutional mechanisms that were put in place as follows: *“The Poverty Eradication Master Plan as has been*

the Cabinet decision in 2013, would be coordinated in the Office of the Premier. A Programme Management Unit with specialists will put established to coordinate the implementation process. This was based on the role that the Office of the Premier plays in the province, that of being the nerve centre of government, playing a coordinating and oversight role in implementing policies and coordinating programmes. The Programme Management Unit will work closely with the Provincial Planning Commission in crafting the performance indicators and targets for the programme, and also in aligning the Poverty Eradication Master Plan with the Provincial Growth and Development Plan. There will be close interface with the Action Work Groups that were established under the Provincial Planning Commission to coordinate the objectives of the Provincial Growth and Development Plan. Different departments will be expected to include the provisions of the Poverty Eradication Master Plan into their Strategic Plans as well as their Annual Performance Plans,” (page 5).

The study further sought to establish if the different government departments included the provisions of the Poverty Eradication Master Plan in their Strategic Plans. In terms of Public Service Act, 1994 and Regulations, read together with the National Treasury’s Framework for the Management of Performance (2006), all government departments are required to produce three to five year Strategic Plans. These have to be costed and approved by the National Assembly in the case of national departments and the Provincial Legislators, in the case of provincial departments.

Table 5.1: Assessment of Strategic Plans (2015-2019)

Department	'Game Changers' part of the Department's Strategic Plan?	
	Yes	No
Social Development	X	
Health	X	
Education	X	
Human Settlements	X	
Arts and Culture	X	
Sports and Recreation	X	
COGTA	X	
Transport	X	
Economic Development	X	
Agriculture	X	
Treasury	X	
Public Works	X	
Community Safety	X	
Office of the Premier	X	

As in all social phenomenon, the changes in the environment within which they occur mean that they are not static, they are ever-evolving and constantly adapting to new conditions in the environment. The issue of poverty is no different from other social phenomenon. It means that if there are to be changes in the environment the complexities of poverty will present themselves in new ways, and these require constant adaptation and adjustment of intervention programmes to remain responsive to the ever-changing dynamics of the challenge and to remain effective. The challenge of the poverty eradication programme remaining responsive to the changes in the environment was put to Respondent 1, in order to establish whether there were contingency plans in place to be adaptive and responsive from the programme point of view.

Respondent 1 described the process as follows: *“the constant monitoring and evaluation of the programme will give a dashboard view of whether the implementation process was still on track. In addition, the statistics from Statistics South Africa and other research reports will assist in informing the changes in the*

environment and thus enabling adjustments to be done and adaptation the changes in the prevailing conditions to be effected,” (page 5).

The study also needed to establish the path that the poverty eradication programme took in order to get approval by the Provincial Cabinet as a provincial policy. Respondent 2 who is the coordinator of the Social Cabinet Cluster described the process that is in place as follows: *“for any policy or programme to get approval from Cabinet it has to go through the different Cabinet Clusters, depending on the nature of the policy or programme. In the case of the Poverty Eradication Master Plan, after its Technical Task Team had finalized the 1st draft, it had to go through the Social Cluster because of its nature. The Social Cluster is made up of six core departments. The institutional arrangements and mechanisms for the Social Cluster is that it is made up of the Social Technical Cluster, which consists of the Heads of Departments and senior officials. Then there is the Social Political Cluster which is made up of the MECs and Heads of Departments. Other Clusters have similar institutional arrangements and mechanisms. The Poverty Eradication Master Plan document was presented to Social Technical Cluster where it was endorsed. This was followed by a presentation to the Social Political Cluster where it got further endorsement. But because there were other departments that were not part of the Social Cluster but who had a significant role to play in the programme, it was also presented to the Joint Cluster Meeting. This is the meeting that consists of all the MECs and Heads of Departments. This was done to ensure that the programme is endorsed by all concerned before going to Cabinet. At the Joint Cluster Meeting the programme got an endorsement,” (page 2).*

This seemingly complex programme with different government departments having a role to play in its implementation is bound to present challenges, firstly on reaching a consensus among the political heads, and secondly on the allocation of resources. In this regard, Respondent 2 said: *‘...it is always a challenge to have a multi-stakeholder programme being presented and a consensus easily reached. The Poverty Eradication Master Plan was no different. The programme had been in the making since 2012 in its various forms, until it got approval firstly, in 2013, as the*

Integrated Poverty Package, later renamed the Integrated Poverty Eradication Programme. The success of any policy or programme also has to do with the leadership provided by the politicians,” (page 2).

In following the trail of the reconstruction of the narrative of the development of the Poverty Eradication Master Plan, an interview with Respondent 3 was conducted, who is the Executive Support Coordinator of the Provincial Cabinet, to find out about what happens to the policies and programmes that come from the different Cabinet Clusters to the Cabinet.

Respondent 3 described the process as follows: *“A memorandum on the policy or programme comes from the responsible department to a Technical Cluster for technical inputs, this is followed by the presentation to the Political Cluster for political guidance. After this the policy or programme is presented to the Executive Council or Cabinet for approval. The Premier of KwaZulu-Natal announced the Poverty Eradication Master Plan during the State of the Province Address in August 2014 as provincial government programme and policy for the next five years. This announcement was made before it was finalized. It became the provincial policy intent and position ... in essence there are two institutional arrangements that are in place for the policy to get approval by the Provincial Executive or Cabinet. Firstly, the policy or programme emanates from the department and through the Cluster System, or secondly, the policy or programme emanates as a directive from the Premier who is the chairperson of the Provincial Executive or Cabinet. The Office of The Premier is an apex department in the province, tasked with coordination of government activities across departments. Cross-cutting issues like poverty and HIV and AIDS are housed in the Office of Premier for better coordination, integration, oversight, as well as monitoring and evaluation. Departments report on the progress of Executive Council Resolutions quarterly to the Executive Council, as well as to the Monitoring and Evaluation Unit. In addition, there two Makgotlas per year, a plural for Lekgotla. The January Lekgotla is a planning one that prepares the provincial government for the year. The plans from this Lekgotla are announced during the State of the Province Address which normally takes place in late January or early*

February to set the tone for government for the year and to communicate to the citizens of the province what the government will be doing during the particular year. The second Lekgotla takes place in July or August each year. This Lekgotla is meant to review the progress that has been made since the beginning of the year on the commitments that the government made,” (page 1).

It is noted in the responses from Respondent 3 that the institutional arrangements and mechanisms to get policies and programmes approved by the Provincial Executive or Cabinet are the same as those described by Respondent 2. The process description was corroborated. This is an iterative and cyclical analysis and synthesis of textual data to identify emerging trends or confirm and validate meaning. This is supported by Bezuidenhout and Cronje (2014) who place an emphasis on the vital importance for the researcher to repeat the analysis and interpretation in continuous cycles as the process of data analysis unfolds in order to “identify and isolate embedded meanings of the text under investigation”. This iterative process and cyclical analysis of textual data provides the researcher with opportunities for identifying emerging trends of meaning from the themes and text under investigation as expressed by the different respondents. The most notable observation is that Respondent 2 was describing the process from inception until it gets to the Provincial Executive or Cabinet. This is to be expected as Respondent 2 coordinates a cluster and sees the processes from that point of view, from start to finish in a bottom-up approach. What Respondent 2 was not privy to was that a policy or programme can also come as a policy injunction from the Premier, as was the case with the Poverty Eradication Master Plan. This was a top-down approach. Booyesen (2007) described the modern approaches to policy development to be a ‘bottom-up’ process, where the practice informs policy. This is a departure from the traditional approaches to policy formulation, which was a ‘top-down’. The unpredictable nature of complexity theory allows for a non-linear process of policy formulation. This means that a policy can be initiated from either end of the policy continuum, as was the case with the Poverty Eradication Master Plan.

When the Poverty Eradication Master Plan was approved in 2014, the characterization of the problem and the diagnosis of the extent and depth of the problem was based on the General Household Survey statistical report of 2013 (Poverty Eradication Master Plan, 2014). Statistics South Africa was, by the time the programme was approved, busy with the next General Household Survey for 2014. Booysen and Erasmus (2007) are of the view that given the complex nature of public policy making and co-ordination in South Africa, there is a need for an integrated system that combines a contextualized, cumulative and integrated set of actions and brings together different initiatives for policy implementation and also ensures midstream continuous adaptations as conditions change. It is worth investigating whether there were changes in the nature and extent of the challenge of poverty in the intervening period. The above view can also be found in Snowden (2010), where he talks about 'bounded applicability', which means applying complexity science and public policy tools where they are most appropriate.

In July 2014 Statistics South Africa released the mid-year population estimates. This is part of the standards set by the International Monetary Fund for member states to annually publish population estimates in between the national census. According to Statistics South Africa (2014) the mid-year population for 2013 was estimated at approximately 53 million people, an increase from the 2011 Census figures of 51 770 560 (Census, 2011).

In July 2014, Statistics South Africa produced a report from the 2014 General Household Survey which indicated an increase in the previously estimated population figures. This means that if there had been no significant changes in the employment and thus income figures, chances are that more individuals and households would have fallen below the poverty line.

4.20 Population estimates by population group and by gender in 2014

Table 2.4 indicates an increase in population from the figure of approximately 53 million people in 2013, to about 55 million people in 2014. These changes have a significant impact on the programme implementation if some of the people fall under

the category of people classified as living below poverty lines. This is where adaptation and adjustment would have to be made for the poverty eradication programme to remain responsive and relevant.

Table 5.2: Population estimates by population group and gender, 2014

Population Group	Male		Female		Total	
	Number	%	Number	%	Number	%
African	21 653 500	80,6	22 574 500	80,4	44 228 000	80,5
Coloured	2 334 800	8,7	2 498 100	8,9	4 832 900	8,8
Indian/Asian	688 100	2,6	673 900	2,4	1 362 000	2,5
White	2 201 900	8,2	2 332 200	8,3	4 534 00	8,3
Total	26 878 300	100	28 078 700	100	54 956 900	100

Source: Statistics South Africa Mid-Year Population Estimates, July 2015

4.21 Population estimates per province by number and percentage

Figure 2.5 reflects population estimates per province in 2014. These figures show an increase in population figures for the province of KwaZulu-Natal from approximately 10,4 million in 2013 to an estimated 19,9% in 2014. This increase can be ascribed to improved health outcomes as a result of improved access to primary health care, including the interventions in the fight against HIV and AIDs.

Table 5.3: Population estimates per province, 2015

Province	Population Number	% estimate
Eastern Cape	6 916 200	12,6
Free State	2 817 900	5,1
Gauteng	13 200 300	24,0
KwaZulu-Natal	10 919 100	19,9
Limpopo	5 726 800	10,4
Mpumalanga	4 283 900	7,8
Western Cape	6 200 100	11,3
Northern Cape	1 185 600	2,2
North West	3 707 000	6,7
Total	54 956 900	100%

Source: Statistics South Africa Mid-Year Population Estimates, July 2015

4.22 Main sources of income for households per province in 2014

Figure 2.9 indicates that many of the households in South Africa rely on salaries as their main source of income. The national average for salaries was 65,4% compared to a national average of 42,3% for grants. Western Cape accounted for the highest salaried province at 78,9%, followed by Gauteng at 74,8%. KwaZulu-Natal Province in at 60,6%. Grants as the main source of income were the highest in Eastern Cape at 56,6%, followed by Limpopo at 56,1%. KwaZulu-Natal came third at 49,6%. The higher the reliance on grants as the main source of income the higher the levels of poverty as the grant system is a 'social protection floor' for those without any other source of income as proposed in the National Development Plan (2012). Remittances, which are monies sent by individuals working in other provinces to their families back at home, was a critical source of income in most provinces, but most notable in Limpopo at 24,8%, Eastern Cape at 21,4%, Mpumalanga 21,1%. KwaZulu-Natal came in at 17,7%. The migrant labour system, especially in Gauteng and the mines in North West and Free State provinces explain the high remittances for these provinces.

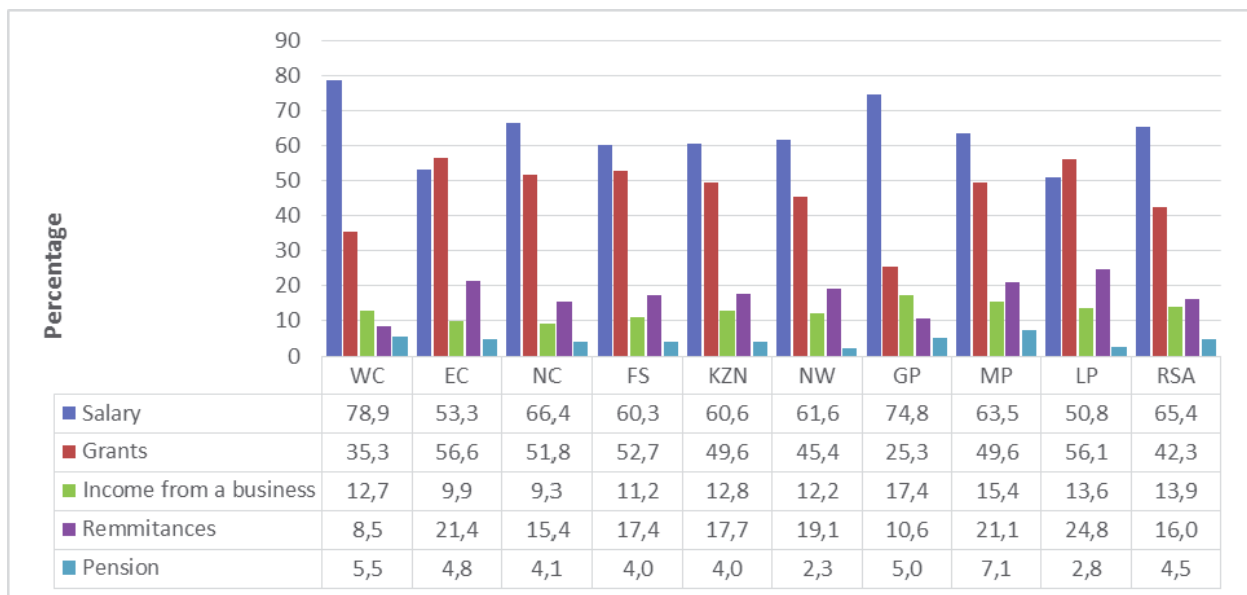


Figure 5.5: Sources of income per province, 2014
Source: General Household Survey, 2015

4.23 Social grants beneficiaries per household and per individual per province

Figure 2.10 indicates that South Africa has experienced a steady growth in individuals that benefited from social grants from 12,7% in 2003 to 29,0% in 2014. During the corresponding period, the percentage of households that received at least one grant increased from 29,9% to 44,5%. Eastern Cape was the highest at 39,3%, followed by Limpopo at 37,4%, KwaZulu-Natal at 36,0% and Northern Cape at 32,9%. Western Cape reflected a 20,6% rate and Gauteng 15,6%. This is commensurate with the figures for sources of income in Figure 9. This also indicates that the levels of poverty were higher in the above-mentioned provinces.

It is further noted that more than 32,8% of the African population received a social grant, followed by Coloured (24,3%), Indian/Asian (10,4%) and White (4,6%) (STATSSA, 2015). This picture supports Woolard (2002) who pointed out that poverty in South Africa was more evident among the Africans compared with other race groups.

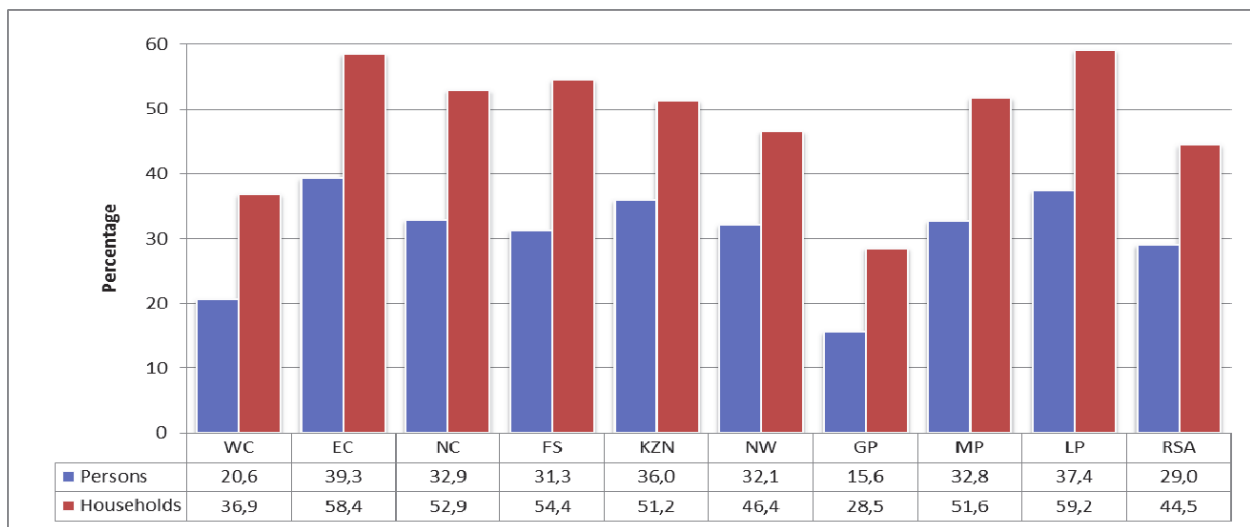


Figure 5.6: Levels of social grant recipients per province
General Household Survey, 2015

4.24 Household food adequacy and inadequacy per province in 2014

According to Statistics South Africa (2014) there has been a general improvement in household access to food since 2002. The Household Food Insecurity Access Scale used by Statistics South Africa, which determines households' access to food showed that the percentage of South African households with inadequate or severely inadequate access to food decreased from 23,9% in 2010 to 22,5% in 2014. During this time, the percentage of individuals that were exposed to food inadequacy decreased from 28,6% to 26%. Since 2011, the percentage of individuals who experienced hunger showed a marginal increase of +0,3% to 13,4% (Statistics South Africa General Household Survey, 2014). KwaZulu-Natal was at 5,9% of individuals whose access to food was severely inadequate. Individuals who were at a survival level but at lessened risk were at 20,5%.

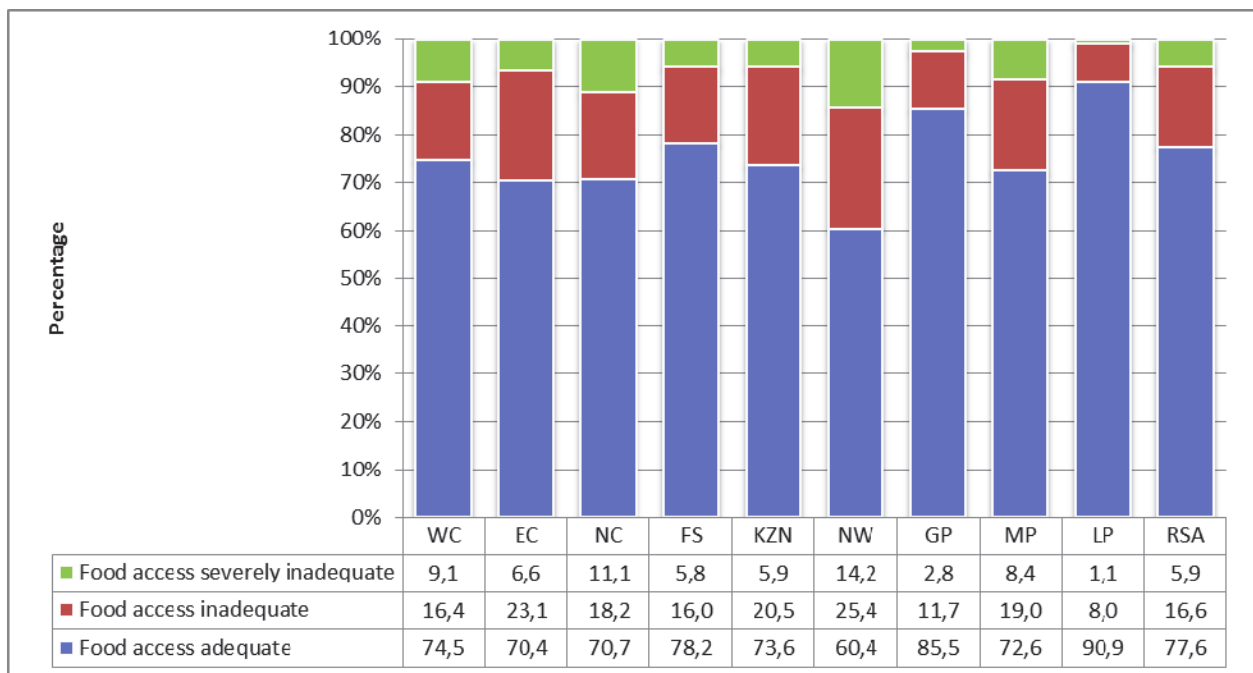


Figure 5.7: Percentage of Households experiencing food adequacy or inadequacy per province
 Source: General Household Survey, 2015

The study also used the Seven Stages of the Soft Systems Methodology in an attempt to evaluate whether the process of developing and implementing the Poverty Eradication Master Plan took into account the 'real world' complexity of developing public programmes that have multiple stakeholders and different variables. Checkland (1999) came up with a modified Seven Stages of the Soft Systems Methodology, which was initially developed in the 1960's. The modified version is focused on developing models for learning and development as a response to management and leadership challenges facing the world.

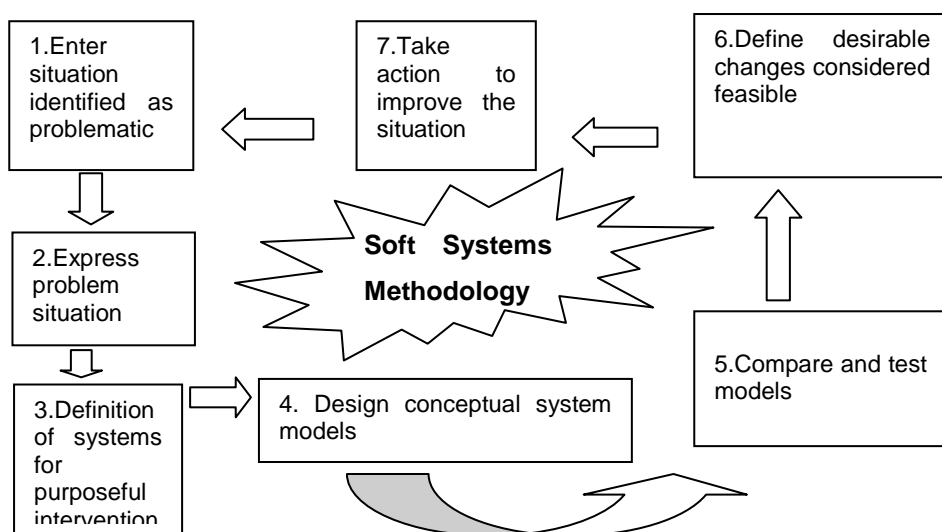


Figure 5.8: The Seven Stages of the Soft Systems Methodology (SSM)

Source: Adapted from Checkland, 1999

The Seven Stages of the Soft Systems Methodology proposes that, through the various stages, a comparison between the 'real world' and the proposed models be made to create a better understanding of the problems and thus create better opportunities for the development of relevant models to address the identified problems. The advantage of using the Seven Stages approach of the Soft Systems Methodology is that it helps untangle programmes with multiple stakeholders, multiple goals and multiple perspectives (Williams, 2005; Checkland & Poulter, 2010). This rigorous process helps in the construction of models best suited for particular perspectives of the programme from a 'real life' point of view.

In testing the processes in the development and implementation of the Poverty Eradication Master Plan against the Seven Stages of the Soft Systems Methodology, the following emerged:

- Stage 1 of the model proposes that the drivers of the intended change of intervention must 'enter the identified problematic situation'. In the case of the Poverty Eradication Task Team they did 'enter' the situation by getting into a LAB using Operation *Phakisa* approach to untangle the problem as indicated by Respondents 1, 2 and 3. During the LAB the extent and depth of the problem was expressed through research data from the Higher Education Institutions, STATSSA, the Agricultural Research Institute and from line function departments. This confirms what Stage 2 of the model requires.
- Stage 3 is about the 'definition of systems for purposeful intervention'. According to the findings as evidenced by Respondent 1's account, the LAB team went through a painstakingly long and complex process of defining the type of systems that would be appropriate to address the problem at hand. This process also involved the design of the appropriate responses for intervention. Stage 3 and 4 of the model are intrinsically linked given that

during Stage 3 the systems for intervention are defined and during Stage 4 the focus is on designing the conceptual systems model.

- Stage 5 involves the testing of the models. In the Poverty Eradication Master Plan (2014) and according to Respondent 1, various models from Malaysia, China, Brazil and India were carefully studied, compared and using the South African context, some adaptations were made in developing a context suitable model using 'real life' situations.
- Stage 6 makes reference to the definition of the desirable changes considered feasible. The Poverty Eradication Master Plan (2014) does highlight the Five Pillars of intervention with 'game changers' which have been considered feasible given the extent of the problem, capacity and available resources.
- Stage 7 is about 'taking action to improve the situation'. To test this stage in 'real life' situation, the researcher scrutinized the Strategic Plans and Annual Performance Plans of the various government departments to determine if the poverty eradication programme provisions were included in the plans. In Table 2.3, there is ample evidence that the government departments have taken action to implement the Poverty Eradication Master Plan by elevating it into their Strategic and Annual Performance Plans.

4.25 Conclusion

In Chapter 5 the thrust is that the context of complexity is very important and helps in identifying appropriate responses. It can also be concluded that the deconstruction of cause and context places complexity in a correct perspective. The study also reveals that it would be simplistic thinking to apportion 100% causality to a single matter. There are several variables. The complexity of the nature of poverty and the varied causal factors of poverty required that an innovative approach to designing solutions be embarked upon. There should be a more analytical approach to the causal links and the intended solution to avoid dissonance.

CHAPTER 5 : CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter the focus will be on the conclusion and a set of recommendations based on the findings in Chapter 5. To be able to effectively deal with the conclusion and recommendations, there has to be a link with the research topic which was to reconstruct the narrative of the processes followed in the development of the poverty eradication programme from a complexity point of view. The objectives of the study will also be revisited and emerging themes or trends will be highlighted, the implications outlined and recommendations made.

5.2 Revisiting the aims and objectives of the study

The aim of this study is to contribute to the better understanding of the processes followed in the development of the KwaZulu-Natal Poverty Eradication Programme within a complex public policy environment through the reconstruction of the narrative of the development of the programme. The study sought to explore the emergent challenges of the KwaZulu-Natal Poverty Eradication Programme using complexity theory as a tool of analysis. The objectives of the study were:

- To reconstruct the narrative of the processes followed in the development of the KwaZulu-Natal Poverty Eradication Programme in a complex environment of government policy frameworks;
- To delineate and describe how the different provincial, selected national departments and state-owned enterprises with specific mandates were brought together to pursue a common objective through a network of relationships; and

- To use complexity theory tools to define poverty and illustrate the challenges experienced in the development and the implementation of the KwaZulu-Natal Poverty Eradication Programme as a policy of the provincial government.

The questions for the research study were the following:

- What were the complexities in the processes followed in developing the Poverty Eradication Master Plan in the Province of KwaZulu-Natal?
- In the context of the complex public policy, what are the institutional arrangements and mechanisms that co-ordinate the Poverty Eradication Programme?
- Is the Poverty Eradication Programme part of the 2015/2020 Strategic Plans of departments, and are there specific budgets and personnel attached to the programme in each responsible department?

It is of critical importance to revisit the research aims and objectives of the study so that as one comes to the conclusion one is able to determine if these objectives were addressed. It was important that the research questions were considered to evaluate whether they were answered or not.

5.2.1 Summary of responses to the research questions

5.2.1.1 What were the complexities in the processes followed in developing the Poverty Eradication Master Plan in the Province of KwaZulu-Natal?

The study confirms that this question was adequately responded to by using the data from the responses of Respondents 1 and 3. The findings during the interviews are that early in 2014 the Provincial Executive Council or Cabinet approved the Integrated Poverty Eradication Programme. However, during the course of the year it was decided by Cabinet and announced during the State of the Province Address that it would be renamed the Poverty Eradication Master Plan. Thereafter a Technical Task Team was established to use the Operation *Phakisa* approach to accelerated the development of the Master Plan using the LAB Model. A Core Technical Task Team and ad-hoc members were appointed. Following weeks of

intensive work, the Technical Task Team presented the Draft Poverty Eradication Master Plan to the Technical Social Cluster, the Political Social Cluster, the Joint Cluster Meeting and to the Provincial Executive Council or Cabinet where it obtained approval.

The study established that indeed the Poverty Eradication Master Plan was discussed in all the Clusters to track progress in implementation through quarterly reports and through the Action Work Groups of the Provincial Growth and Development Plan (Respondent 1, 2 and 3; pp. 68-70).

The study also revealed that many of the provisions of the Poverty Eradication Master Plan are not necessarily new, they are part of the ongoing work of line departments. What the Poverty Eradication Master Plan did was to identify 'catalytic' programmes from departments that would address the key causal factors of poverty and elevate them to 'Game Changers' in the Master Plan to give them a sharper focus and priority. Accordingly, departments would have linked these 'Game Changers' to specific personnel and allocated dedicated budgets to them (Poverty Eradication Master Plan, 2014).

5.2.1.2 In the context of the complex public policy, what are the institutional arrangements and mechanisms that co-ordinate the Poverty Eradication Programme?

According to Respondent 1, 2 and 3, the structures that co-ordinate the Poverty Eradication Master Plan are the different Clusters, the Action Work Groups, the Provincial Planning Commission, the Programme Management Unit and the Monitoring and Evaluation Units in the Office of the Premier, the Provincial Executive Council or Cabinet and the Provincial Cabinet *Lekgotla*. This is corroborated by the Poverty Eradication Master Plan (2014) through making use of Clarke's (1994) process of 'iterative and continuous interfacing of text' to gain better understanding and validation of information. The institutional arrangements for reporting are through the above-mentioned structures on a quarterly basis internally in line departments on a monthly basis.

5.2.1.3 Is the Poverty Eradication Programme is part of the 2015/2020 Strategic Plans of departments?

The study has, through careful literature analysis as espoused by Maree (2007), conducted a 'moment in time' rapid assessment of the Strategic Plans and Annual Performance Plans of departments to establish if the provisions of the Poverty Eradication Master Plan were included in their Strategic Plans. This is confirmed in Table 5.1 (section 5.7).

5.3 Emerging issues from the study

In Bezuidenhout and Cronje (2014) there is a clear emphasis during the stage of analysis for the researcher to repeat the analysis and interpretation in continuous cycles in order to identify meanings. Nueman (2003) describes the process of iterative and cyclical data analysis as a hermeneutic approach. In Chapter 5 the researcher conducted iterative and repeat analysis of both textual and statistical data to identify the emerging trends in meaning as well as the phenomenon of poverty. The researcher sought to gain greater insight into the phenomenon of poverty, through the reconstruction of the narrative by the respondents, as well as document analysis of the historical statistical data. The emerging themes from Chapter 5 are discussed in the following pages and seek to look at the development of the poverty eradication programme from a complexity point of view.

5.3.1 Multiplicity of poverty eradication programmes

In Chapter 5 under findings, the literature analysis reveals that there have been a number of poverty eradication programmes over the years from the national government. These programmes as they stand have not achieved the desired results. Some of these programmes were a duplication of others while some created overlaps with similar programmes. This is caused by the attempts of each national department to have their own programme on poverty eradication so as to 'tick the box' in compliance and conformity. The fundamental problem with these programmes was that they created a complex web of intricate policy systems that did not link with each other. Furthermore the provinces never created a platform to

synergize response measures to the complex problem of poverty. The proliferation of disconnected policies created a nightmare for the provincial departments in attempting to correctly interpret and implement them. The response from national government was to create rules and regulations for the implementation of these poverty eradication programmes.

5.3.1.1 Implications

The rule-bound approach to the challenges of the multiplicity of poverty eradication policy programmes has seen the emergence of a trend among the departments of 'malicious compliance to the rules'. The qualitative part of the implementation process has been missing. The 'tick box' approach by national departments has permeated down to the provincial departments and created a culture of bureaucratic behavior of complying with rules. This means that there have been a lot of resources that have been wasted over the years as a result of these multiple poverty eradication programmes that sought to compete with one another. Klijn and Snellen (2009) argue that the system of government the world over is predicated on corporatist and performance-based practices that are influenced by theories of rational action. However, for public policies to be successful, a non-linear approach is recommended.

5.3.1.2 Recommendations

In Chapter 3 literature analysis indicated that nationally there is a Cluster system of governance, where departments with similar or related functions are clustered to ensure coordination and coherence. In an iterative and cyclical process, the study repeated the same analysis for the province of KwaZulu-Natal and it emerged that a similar cluster system exists in all the provinces. What did not seem to happen was the filtering down of the similar work done by national clusters to the corresponding clusters in the provinces.

The study recommends that in the complex system of government and public policy where the cluster system has been adopted as a tool to manage complexity, avoid duplication and improve coordination, a form of cluster interface between the

national clusters and provincial clusters be initiated. The study further recommends the streamlining of poverty eradication programmes from the national government to eliminate duplication, overlaps and wastage of resources. The study recommends that the provincial administrations, through the Offices of the Premier, be more assertive in ensuring correct interpretation and adaptation of national policies so that the provincial dynamics are taken into account when implementing national policies and programmes.

5.3.2 Partnerships through societal learning and change

The interviews and literature analysis painted a picture of a series of failed attempts to develop a comprehensive poverty eradication programme that brings together the different spheres of government, including national, provincial and local government. These failed attempts also struggled to bring on board the institutions of higher learning, the private sector, civil society and traditional leadership. The fact that the Social Cluster had on several occasions driven the process of the development of the poverty eradication programme with no reasonable degree of success, points to the fundamental weakness, that of the lack of a system of partnerships and a joined-up approach.

Societal learning and change (SLC) refers to managing and changing relationships meaningfully to address persistent societal challenges. The successful management of these relationships, according to Waddell (2005), requires the realignment of relationships at a macro level between the core systems of society, including government, civil society and business.

5.3.2.1 Implications

The implication is that one cluster of government departments will attempt to implement a policy and a programme that requires departments from other clusters to participate, with disastrous results. The policy responses will not be comprehensive and integrated. The policy impact will be minimal because of the disjointed responses.

5.3.2.2 Recommendation

A joined up approach to the complex problems that face society is required. The study conducted an analysis of the literature on poverty and it emerged that it is complex with a set of variables that cannot be addressed by a single role-player. This view is supported by Chirot (1994), Jaffe (1990), McMichael (2000) and Surman (2006) regarding the need for different role-players to form partnerships in dealing with complex societal problems, and through the constellation approach in bringing together different stakeholders in a complex system to address complex issues in a cross-functional matrix relationship.

5.3.3 Complex adaptive system

The different departments went into the LAB to develop the Poverty Eradication Master Plan with their sets of constitutional mandates, strategic plans and programmes. Respondent 1 indicated that they had to 'take off their hats' when they entered the LAB. This referred to the process where the officials from different departments had to think in an integrated manner not as departments; they had to adapt to the new environment. They had to think within a systems approach. Complex systems are adaptive. They can re-organise their internal structure without the intervention of an external structure. Holland (1995) argues that the behavior of individuals or 'agents with schemata' is influenced by the input produced in a "dynamic system at a lower level of aggregation". The agents are connected to one another and they are influenced by the behavior of another subset of agents in the system. Holland (1995) further mentions the concept of 'coevolution to the edge of chaos'. In this the author highlights the functional policy trade-offs between the different agents who might have come to the discussion on the development of the poverty eradication programme with hard and predetermined positions. First the discussion would gravitate towards the edge of chaos until there were policy trade-offs and new policy choices and positions were adopted. Kauffman (1993) refers to this as 'autocatalytic sets', meaning they self-organise to combine ideas that would not have been thought of initially.

5.3.3.1 Implications

If the departments, led by their officials did not adapt to the changed environment, none of the outcomes that were planned would have been achieved. The departments would have come out with the own plans that did not integrate with others, as before. The worst case scenario would have been different definitions of the problems, giving rise to divergent responses in dealing with the challenge of poverty.

5.3.3.2 Recommendations

The study recommends that for any public policy to be effective it needs to be looked at and analyzed from a complexity point of view to put it in a proper perspective. The responses have to be a mixture of a set of responses that takes care of the policy disconnects, the discontinuities and incrementalism that is characteristic of complex policy environments.

Furthermore, the study recommends that in future, the uncertainties, anxieties and sense of loss of control is managed through a change management process to prepare departmental officials for the change coming their way. The observations revealed that there was a great deal of resistance by some of officials to the new way of thinking.

5.3.4 Environmental analysis, feedback loops, prediction and control

During Edward Lorenz's experimentation on long-range weather forecasting, he highlighted that small changes in a complex system's initial conditions can significantly change long term behaviour. This was popularly known as the 'butterfly effect', where the flapping of the tiny butterfly's wings in England has an effect eventually on weather conditions in China (Jackson, 2003: 114). The significance of this lies in the analysis of the environmental factors that could influence decision-making and strategic thrust of chosen policy options. The positive feedback loops from the environmental analysis supports change and on the other hand the feedback loops can influence change in a negative manner (Caldwell, 2012, p.152).

Riley *et al* (2015, p.50) places emphasis on the ability of the feedback loops to inform decision-making thus contributing to policy interventions. The study conducted an analysis of the history of the statistical data of poverty between 2013 and 2014, and it emerged that there were marked changes in the population figures. This would have significant implications for the responses to the challenge of poverty because the changes in numbers might mean more people requiring assistance than previously anticipated.

5.3.4.1 Implications

The implications of not conducting a continuous environmental analysis to identify changes in the conditions in which the policy has to respond to are too ghastly to contemplate. The policy could be irrelevant, misaligned with the environment, lead to the waste of resources and not achieve the desired results.

5.3.4.2 Recommendation

The study recommends that the perplexing problems confronting major programme implementation should be addressed through the complexity perspective. Complexity theory is seen as more suitable to the changing behavior patterns and interactions in organisations, between organisations, with the environment, as well as complex social and natural systems because it is holistic, places emphasis on creativity and demands a paradigm shift away from control-based approaches.

Von Bertalanffy (1968; Sibani & Jensen, 2013; Ledford, 2015;) described an open system as being when parts of a system interact with each other and their environment to maintain their existence. Feedback loops were born out of the co-existence found in the open system. Feedback loops refer to the information related to the outputs which feed back into the system for the purpose of bringing about change of the outputs.

Prediction and control relates to the system's ability to head off dysfunction and survive when problems occur. Systems have a number of predictable and less predictable properties and the monitoring of system performance against expected reference standards is a key control requirement as it enables the system to correct deviations from originally desired outputs (Waring, 1996).

5.3.5 Predictable, non-predictable, linear and non-linear policy process

During the interviews and literature analysis, the study picked up that the institutional arrangements for the policy or programme to get approval from the Provincial Executive or Cabinet are that it is initiated by the responsible line department through a Cabinet Memorandum and the policy document is then presented at the Technical Cluster for technical input, presented to the Political Cluster for political guidance and support and then presented to the Provincial Executive or Cabinet for approval, assuming a 'bottom-up' approach. This is the predictive behavior of the policy process. It is predicated on a linear process. This was confirmed through an iterative and cyclical analysis of data to identify emerging meaning. Clarke (1994) refers to this process as an 'iterative and continuous interfacing of text.

In the case of the Poverty Eradication Master Plan, it was announced during the State of the Province Address in 2014 before it was developed. It was announced before it went through the institutional arrangements and mechanisms that are in place to manage the policy processes.

5.3.5.1 Implications

The implications for this unpredictable turn of events is that policy processes are a complex undertaking, responding to a complex set of problems, and the poverty eradication programme as a policy was a response to a complex societal problem. The central dictum is that policy processes are unpredictable and non-linear.

5.3.5.2 Recommendations

The study recommends that policies and programmes should be examined and dealt with from a complexity perspective since they are non-predictable, non-linear and are dependent on the environment in which they are applied. Meek (2010) points to the non-linearity of public policy processes and the lack of predictability so policies are designed with their unique characteristics, with a unique set of role players. The centrality of the concepts of the complexity theory dealt with here such as self-organisation, non-linearity, co-evolution, connective capacity, emergence, dissipative structures of government provide for a better understanding of the non-predictive and dynamic nature of the different environmental contexts within which policies are planned, designed and implemented. Morçöl (2002) suggests that emergence, dissipative structures and self-organisation are constructs of the complexity theory, and such conceptions help to improve our understanding of the role that complexity theory can play in creating a better understanding dynamic policy contexts.

The fact that the programme on poverty eradication emanated from the Premier as opposed to the established and predictable policy process underscores the assertion of non-linearity and unpredictability.

5.3.6 Vertical, horizontal, hierarchical and spatial complexity

The analysis conducted in Chapter 5 pointed to the fact that the role-players in the development of the Poverty Eradication Master Plan included institutions of higher learning, the national and provincial departments, local government, private sector, traditional leaders and civil society. This is what could be referred to as horizontal and vertical alignment of the policy. However, this is not without complexities, as these role-players have different sets of founding rules and mandates. In this study the horizontal and vertical alignment were evident with the presence of national, provincial and local spheres of government. In addition, the study identified the vertical alignment of the Poverty Eradication Master Plan with international standards, the constitution, the national policy frameworks and the horizontal alignment with the Provincial Growth and Development Plan, the Action Work Groups through the Provincial Planning Commission and other provincial policy imperatives.

It also emerged from the study that when the poverty eradication programme was revamped into the Poverty Eradication Master Plan, it was driven from the highest administrative hierarchy of the provincial administration through the Economic Development Head of Department. The study finds that the Premier of the Province of KwaZulu-Natal personally championed the process of the development of the programme. Firstly, the hierarchical complexity becomes evident when a Head of Department is charged with leading a complex process of developing an overarching programme that would require the participation of other departments. This means that other Heads of Departments would be guided by the Head of Economic Development in terms of what the provisions of the programme are and the implications for their departments. Secondly, the hierarchical complexity becomes evident as the programme is championed by the Premier personally, unlike in other instances where the champion is the MEC from the responsible line department. Even when a particular MEC is not happy with the trajectory that the process is following, there is very little that can be done since the programme assumes a 'top-down' approach.

The study also identified the need for the Poverty Eradication Master Plan to deal with issues of spatial distribution of services to the rural areas far flung in the different corners of the province far from towns and cities.

5.3.6.1 Implications

The implications are that complexity cannot be understood from a single window to the world. There are many pressure points that would reveal complexity upon closer look. The hierarchical complexity that comes with the role that one Head of Department plays over the others is that attitudes might harden from other Heads of Department at this perceived 'super Head of Department'. The contestation of roles and responsibilities will need to be managed. Furthermore, the implications for the role of the MECs in the process is that they have to follow instructions from the Premier whether they agree with the programme trajectory or not.

5.3.6.2 Recommendations

The study recommends that since hierarchical complexity has the potential of developing into contestations among the Heads of Departments, it needs to be managed properly. Cilliers (2000) writes that the behaviour of the system is not determined by what is contained in the components but by the nature of interactions. He further argues that systems do not thrive where there is too much control, but also does not suggest that there should not be control, rather that control should be distributed in the system as a whole.

The study further recommends that given that the Poverty Eradication Master Plan is a multi-disciplinary programme, the matrix relationship model is followed to ensure that there are clear roles and responsibilities, that there are no overlaps and that there are no duplications.

Finally, the study recommends that the deployment of resources takes into account where the most need is in terms of the spatial complexity. There would have to be trade-offs with other programmes and between geographic areas where resources would have to be top-sliced in less affected areas to address the needs in the most affected areas.

5.4 Conclusion

The emerging lessons from the study is that the public policy context is a complex one and should be approached from a systems thinking point of view by ensuring coherence with other actors' actions to create a platform for co-operation and co-determining solutions.

This study is providing an important lesson on complexity and public policy which in that the context of public policy becomes more complex as a result of environmental factors. The lessons are also that as much as the science of complexity is an emerging one, it provides useful analytical tools to deal with perplexing policy issues. The lessons from the study also places emphasis on creating partnerships through recognizing emergent properties during interactions that create spaces for and

avenues of establishing co-operative co-existence, co-production of inputs and knowledge to finding creative solutions.

Finally, the study sharply points to the increasing complexity of public policy and programme implementation as a result of the complex environment in which policies are developed and implemented. The complex nature of poverty in the South African context and the policy environment in which it has to be implemented implores policy-makers, implementers and other interest parties to use systems thinking approach and look at it from a complexity point of view to create a better understanding to ensure success in the policy responses and interventions. From the study it becomes clear that there needs to be an improvement in the diagnostic approaches, instruments guiding policy implementation and the need for the strengthening of the monitoring and evaluation mechanisms to improve the outcomes of policy interventions.

REFERENCE LIST

Ackoff, R.L. 1981. The Art and Science of Mess Management. *Interfaces*, 11(1): 20-26.

African National Congress. 2009 Election Manifesto. Johannesburg: African National Congress

African National Congress. 2014 Election Manifesto. Johannesburg: African National Congress

African National Congress. 2015. ANC Lekgotla Bulletin. Johannesburg: African National Congress.

Allen, P. Maguire, S. Mckelvey, B. (eds). 2011. The Sage Handbook of Complexity Management. Los Angeles. Sage

Alcock, P. 1997. Understanding Poverty. London: Macmillan Press.

Aronson, D. 1996. Overview of Systems Thinking. Available from http://www.thinking.net/Systems_Thinking/OverviewSTarticle.pdf.

Baden, A. 2003. Reflections on CATWOE, A Soft Systems Methodology Technique for Systems Design: Proceedings of the 9th Annual CPTS Working Conference, 2003

Baker, R. F., Michaels, R. M. & Preston, E. S. 1975. Public Policy Development: Linking the technical and political processes. New York. John Wiley

Bang, H. Esmack, A. 2013. A Systems Theory of Good Governance. Paper prepared for ICPP, Grenoble 2013. Panel 45/Session1

Baumgartner, F. Jones, B. Mortensen, P. 2014. Punctuated Equilibrium Theory: Explaining Stability and Change in Public Policy-Making. Boulder. Westview Press

Bezuidenhout. R. 2014. Research Matters. Pretoria. Van Schaik

- Bio-Science. 2013. Autocatalytic Sets. From the Origin of Life to the Economy. *Journal for the American Institute of Biological Sciences*. 63 (11): 877 - 881
- Blaser, M. Manthey, B. 2011. *Advanced Complexity Theory*. Universitat des Saarlandes
- Bless, C & Higson-Smith, C. 1995. *Fundamentals of Social Research Methods: An African Perspective*. 2nd ed. Cape Town: Juta.
- Booyesen, S. 2007a. Public Policy-Making in South Africa. In Venter, A. & Landsberg, C. eds. *Government and Politics in the new South Africa*. 3rd ed. Pretoria: Van Schaik.
- Booyesen, S. 2007. *Policy Management and Institutional Arrangements*. Johannesburg: University of Witwatersrand.
- Bronte-Stewart, M. 1999. Regarding Rich Pictures as tools for Communication and Information Systems Development. *Computing and Information Systems*, 4: 83-102.
- Cairney, P. 2010. Complexity Theory in Political Science and Public Policy. *Political Studies Review*, 10(3): 346-358.
- Caldwell R, 2012, Systems thinking, organizational change and agency: A Practice theory critique of Senge's learning organisation, *Journal of change management*, Vol 12, No. 2, pp. 145-164, June, 1469-7017 Print/1479-1811 Online/12/020145-20, Taylor & Francis, <http://dx.doi.org/10.1080/14697017.2011.647923>
- Cilliers, P. 2000. What can we learn from a Theory of Complexity? *Emergence*, 2(1), 23-33.
- Checkland, P. B. 1981. *Systems Thinking, Systems Practice*. Chichester: John Wiley
- Checkland, P. B. & Scholes, J. 1999. *Soft Systems Methodology in Action*: New York: John Wiley.
- Checkland, P. Poulter, J. 2010. *Soft Systems Methodology: Systems Approved to Managing Change: A Practical Guide*. pp. 191 - 242

Chetty, S. 1996. The Case Study Method for Research in Small-and Medium-sized Firms. *International Small Business Journal*. 15(1): 73-85.

Chirot, D. 1994. *How Societies Change*. London: Sage

Clarke, J. J. 1994. *Jung and Eastern Thought: A Dialogue with the Orient*. London: Routledge.

Collins English Dictionary. 2012. London: HarperCollins

Coudouel, A., Hentschel, J. S. & Wodon, Q. T. 2002. *Poverty Measurement and Analysis: A Sourcebook for Poverty Reduction Strategies*, 1, 27-74. Washington D.C.: World Bank.

Cronje, J. 2006. *Paradigms Regained: Towards Integrating Objectivism and Constructionism in Instructional Design*. Pretoria: Van Schaik

Dahl, R. 2011. *The Concept of Power*. Yale University. Department of Political Science

Dawdowicz, P. 2011. The Person on the Streets' Understanding of Systems Thinking, *Systems Research and Behavioural Science*, Vol. 29. Pp 2-3

Denzin, N. K. & Lincoln, Y. S. 2000. *Handbook of Qualitative Research*. 2nd ed. Thousand Oaks: Sage.

De Toni, A. & Comello, L. 2011. *Journey into Complexity*. Udine: Lulu. ISBN 978-1-4452-6078-5

De Vos, A. Strydom, H. Fouche, C. Delpont, C. 2011. *Research at Grassroots*. 4th Edition. Pretoria: Van Schaik

Du Plooy-Cilliers, F., Davis, C., & Bezuidenhout, R. 2014. *Research Matters*. Cape Town: Juta.

Du Toit, A. 2005. *Poverty Measurement Blues: Some Reflections on the Space for Understanding Chronic and Structural Poverty in South Africa*. CPRC Working Paper

55/PLAAS. Chronic Poverty and Development Series 6. Manchester and Bellville. Chronic Poverty Research Centre and PLAAS.

Dye, T. R. 2012. Understanding Public Policy. 3rd ed. New York: Prentice-Hall.

Dye, T.R. 2012. Understanding Public Policy: Policy Analysis – Presentation by Amil Chandrika, 21 August 2012. NIDA

Ellis, B. Herbert, S. 2011. Complex Adaptive System: An Overview of Key Elements, Characteristics and Application to Management Theory. Journal of Innovation in Health Informatics –hijournal.bcs.org

Eppel, E. et al. 2011. Applying Complexity Theory to New Zealand Public Policy: Principles for Practice Policy Quarterly – Vol.7, Issue 1 – February 2011

Financial and Fiscal Commission. 2014. Fiscal Reviews. Pretoria: Government Printers.

Flyvbjerg, B. 2006. Five Misunderstandings about Case-Study Research. Qualitative Enquiry, 12(2): 219-245.

Flood RL, 2010, The relationship of systems thinking to action research, *Maastricht School of Management*, Endepolsdomein 150, 6229EP Maastricht, The Netherlands, e-mail: flood@msm.nl, Syst Pract Action Res, pp. 269-284, DOI 10.1007/s11213-010-9169-1, Published online: 25 March 2010, Springer Science Business Media, LLC

Geyer, R. & Rihani, S. 2010. Complexity and Public Policy: A New Approach to 21st Century Politics, Policy and Society. New York. Routledge.

Ghaffarzadegan N., Lyneis J., & Richardson G. 2011. How Small System Dynamics Models can help the Public Policy Processes. *System Dynamics Review*, 27(1): 22-44.

Gleick, J. 1987. Chaos: Making a New Science. London: Abacus.

Gomm, R., Hammersley, M. & Foster, P. 2000. Case Study Method. London: Sage.

Glewwe, P. 1988. The Distribution of Welfare in The Republic of Cote d'Ivoire in 1985. Living Standards Measurement Strategy (LSMS). Working Paper 29. Washington D.C.: World Bank.

Grazzini, J. 2012. Analysis of the Emergent Properties: Stationary and Ergodicity. *Journal of Artificial Societies and Social Simulation*, 15(2)

Hanekom, S. X. 1987. Public Policy: Framework and Instrument for Action. Johannesburg. Macmillan.

Harrington, H. J., Carr, J. J., & Reid, R. P. 1999. What's this "Systems" Stuff, Anyhow? *The TQM Magazine*, 11(1): 54–57.

Henning, E., Van Rensburg, W. & Smit, B. 2004. Finding Your Way in Qualitative Research. Pretoria: Van Schaik.

Hood C. & Peters G. 2004. The Middle Ageing of New Public Management: Into the Age of Paradox? *Journal of Public Administration Research and Theory*, 14(3): 267-282. Available from: <http://www.businessdictionary.com/definition/system.html#ixzz3eGnyGfRI>.

Hogwood, B. W. & Gunn, L. A. 1984. Policy Analysis of the Real World. London: Oxford University Press.

Howlett, M & Ramesh, M. 1995. Studying Public Policy: Policy Cycles and Policy Subsystems. Toronto: Oxford University Press.

Husserl, E. 2012. General Introduction to Pure Phenomenology. New York. Routledge

Ife, J. & Tesoriero, F. 2006. Community Development: Community-Based Alternatives in an age of Globalisation. 3rd ed. Frenchs Forest, N.S.W.: Pearson Education.

Ikejiaku, B. 2009. The concept of poverty: towards understanding in the context of developing countries 'Poverty qua poverty': with some comparative evidence in Britain. *Journal of Sustainable Development*, 2(2); 1-11.

International Monetary Fund. 2014. IMF Economic outlook, April 2014. Available from: <http://www.imf.org/external>.

Innes J & Booher, D. E.. 2007. Consensus building and complex adaptive systems: a framework for evaluating collaborative planning. *Journal of the American Planning Association*. 65(4): 412-423.

Jameel, A. 2015. Anti-Poverty Strategy. Abdul Latiff Jameel Poverty Action LAB. Massachusetts Institute of Technology

Jackson, M. 2003. *Systems thinking: creative holism for managers*. New York. John Wiley.

Jaffe, M. 1990. *Report to the Governor of Illinois – Governmental perspectives on improving S.B. 172 Siting process for sanitary landfills*. Springfield: Office of the Governor of Illinois. 166 pp

Jansen, J. 2010. *Thinking Beyond Social Science*. *Times Newspaper*, 08 December 2010.

Jauch, L. R. & Kraft, K. L. 1986. Strategic management of uncertainty. *The Academy of Management Review*, Vol.11(4): 777-790

Joynt, K. & Webster, E. 2012. Discordant voices: the hidden world of Johannesburg's inner city clothing workers. *Journal Of Workplace Rights*, 16(2): 149-169.

Kauffman, S. A. 1993. *The origins of order: self-organisation and selection in evolution*. New York: Oxford University Press.

Kim, D. H. 1992. Toolbox: guidelines for doing causal loop diagrams. *The Systems Thinker*, 3(1): 5-6.

Klijn, E. H. & Snellen, I. 2009. Complexity theory and public administration: a critical appraisal. In: Teisman, G., Van Buuren, A. & Gerrits, L. eds. *Managing complex governance systems: Dynamics, self-organisation and coevolution in public investments*. New York: Routledge.

Koliba, C. & Zia, A. 2011. Theory Testing Using Complex Systems Modelling in Public Administration and Policy Studies: Challenges and Opportunities for a Meta-Theoretical Research Program. Paper Presented at the 2011 Public Management Research Conference (PMRC), Maxwell School of Citizenship and Public Affairs at Syracuse University, June 2 – 4, 2011.

Kurtz, C. & Snowden, D. 2003. The new dynamics of strategy: sense-making in a complex and complicated world. *IBM Systems Journal*, 42(3): 462-483.

KwaZulu-Natal Department of Agriculture and Rural Development. Strategic 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Arts and Culture. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Education. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Health. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Human Settlements. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Social Development. Strategic Plan (2015-2019 and Annual Performance Plan 2015/16). Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Sports and Recreation. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Department of Transport. Strategic Plan 2015-2019. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Poverty Eradication Master Plan. 2014. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Cabinet. 2012. February Lekgotla Resolutions. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Cabinet. 2013. August Lekgotla Resolutions. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Cabinet. 2014. August Lekgotla Resolutions. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Cabinet. 2015. February Lekgotla Resolutions. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal Provincial Growth and Development Strategy and Plan. 2015. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal State of the Province Address. 2013. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal State of the Province Address. 2014. Pietermaritzburg: KwaZulu-Natal Provincial Government.

KwaZulu-Natal State of the Province Address. 2015. Pietermaritzburg: KwaZulu-Natal Provincial Government.

Lane, Jan-Erik. 1994. Will public management drive out public administration? *Asian Journal of Public Administration*, 16(2): 139-151.

Lewis, P. J. 1992. Rich picture building in the soft systems methodology. *European Journal of Information Systems*, 1(5): 351–360.

Ledford, H. 2015. How to Solve the World's Biggest Problems? *Nature*, 525(7569), 308-311

Littlejohn, S. W. 2002. *Theories of human communication*. 7th ed. New York: Wadsworth/Thomson.

- Lorenz, G. *Evolutionary Epistemology*. New York: New York State University Press
- Lukes, S. 1993. Three distinctive views of power compared. In: Hill, M. (ed). *The policy process: a reader*. New York: Harvester/Wheatsheaf, 50-58.
- Maani K. E. & Maharaj V. 2004. Links between systems thinking and complex decision-making. *Systems Dynamics Review*, 20(1): 21-48.
- Maree, K. 2007. *First steps in research*. Pretoria: Van Schaik.
- Margarita, A. Vladmir, I. 2014. The Quantum Strong Subadditivity Condition for Systems without Subsystems. A Paper Published 2nd April 2014. The Royal Swedish Academy of Sciences. *Physica Scripta*, Vol 2014, Number T160
- McKee, A. 2001. *Textual analysis: a beginner's guide*. London: Sage.
- McKelvey, B. 1999. Avoiding Complexity Catastrophe in Co-evolutionary Pockets: Strategies for Rugged Landscapes. *Organisation Science*, Vol.10, 294-321
- McLean, I. 1996. *The Concise Oxford Dictionary of Politics*. Select entries, Oxford University Press. Oxford
- McMichael, P. 2000. 'World systems analysis, globalization and incorporated comparison', *Journal of World System Research*, VI (3) 668 – 669
- Medium Term Strategic Framework. 2014 – 2019. Pretoria: Government Printers
- Meek, J.W. (2010). "Complexity theory for public administration and policy," *Emergence: Complexity & Organisation*, ISSN 1521-3250, 12(1): 1-4.
- Merriam, S.B. (1998). *Qualitative research and case study application in education*. San Francisco: Jossey-Bass Publishers.
- Mkandawire, T. 2005. Targeting and Universalism in Poverty Reduction: Social Policy and Development Programme, Paper Number 23, December 2005. United Nations Research Institute for Social Development

- Mkandawire, T. 2010. How the new poverty agenda neglected social and employment policies in Africa. *Journal of Human Development and Capabilities: A Multi-Disciplinary Journal of People-Centred Development*. 11(1): 37-55.
- Molleman, L. Quinones, A. Weissing, F.J. 2013. Evolution and Human Behaviour. September 2013, Vo. 34 (5): 342-349, doi: 10.1016
- Morçöl, G. 2002. *A new mind for policy analysis: towards a post-Newtonian and post-positivist epistemology and methodology*. Santa Barbara, C.A.: Praeger.
- Morgan-Rallis, H. 2014. *Guidelines for Writing a Literature Review*. Glendale. Pyczak Publishing
- Mouton, J. & Marais, H. 1994. *Basic concepts in the methodology of the social sciences*. Pretoria: HSRC.
- Mouton, J. 2001. *How to succeed in your master's and doctoral studies: a South African guide and resource book*. Pretoria: Van Schaik.
- MUNMEC. 2015. Presentation on Community Nutrition and Development Centres, Coastlands Hotel, Umhlanga Rocks, 11 June 2015.
- National Planning Commission. 2011. Diagnostic Report. Pretoria. Government Printers
- Narayanan, V. K., Pinches, G. E., Kelm, K. M. & Lander. D. M. 2000. The influence of voluntarily disclosed qualitative information. *Strategic Management Journal*, 21(7): 707-722.
- Neuman, W. L. 2003. *Social research methods: qualitative and quantitative approaches*. 5th ed. Boston, M.A.: Allyn & Bacon.
- Neumann K, 2013, Know why thinking as a new approach to systems thinking, E:CO Issue Vol. 15 No.3, pp. 81-93
- Nicholson, D. 2013. The Methodology: Organizing Your Social Sciences Research.http://libguides.wits.ac.za/Scholarly_Research_Resources

Nieuwenhuis, J. 2007. Qualitative research designs and data gathering techniques. In: Maree, K. ed. *First steps in research*. Pretoria: Van Schaik, 69-97.

Nyasulu, G. 2010. Revisiting the definition of poverty. *Journal of Sustainable Development in Africa*. 12(7): 147-158. Clarion University of Pennsylvania, Clarion, Pennsylvania

OECD, 2015. Multiple Dimensions of Poverty: OECD and Post-2015 Reflections, Element 1, Paper 1

Operation *Sukuma Sakhe*. 2012. *Implementation Model: Guidelines for co-ordination*. Pietermaritzburg: Office of the Premier

Oppenheim, C. 1993. *Poverty: the facts*. London: Child Poverty Action Group.

Patrizi, P. Thompson, E. 2013. Eyes Wide-Open. Learning as Strategy Under Conditions of Complexity and Uncertainty. *Foundation Review*, Vol. 5:3

Piketty, T. 2014. *Capital in the twenty-first century*. Cambridge, M.A.: Harvard University Press

Pilkington, C.L. Pretorious, L. 2015. A Conceptual Model of the Research Methodology: Proceedings of the 7th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K 2015). Volume 2: KEOD. Lisbon, Portugal, 12-14 November 2015.pp. 96-107

Republic of South Africa. 1996. Constitution. Pretoria: Government Printers.

Republic of South Africa. National Treasury. 2014. Division of Revenue Act. Pretoria: Government Printers.

Republic of South Africa. 2014. Development Indicators. Available at: <http://www.gov.za>,

Republic of South Africa. Financial and Fiscal Commission. 2014. Cabinet Briefing on the Submission for the 2015/16 Division of Revenue. Pretoria: Government Printers.

Republic of South Africa. National Department of Social Development. 2013. National Household Food and Nutrition Security Policy. Pretoria: Government Printers.

Republic of South Africa. National Development Plan. 2011. Vision for 2030. Pretoria: Government Printers.

Republic of South Africa. National Treasury, 2005. Framework for Managing Performance. Pretoria: Government Printers.

Republic of South Africa. New Growth Path. 2011. Pretoria: Government Printers.

Republic of South Africa. Public Service Act, 1994. Pretoria: Government Printers.

Republic of South Africa. Reconstruction and Development Plan. 1994. Pretoria: Government Printers.

Republic of South Africa. South African Year Book. 2014. Pretoria: Government Printers.

Republic of South Africa. The Presidency. 2014. Medium Term Strategic Framework. Pretoria: Government Printers.

Republic of South Africa. The Presidency. 2014. Outcome 13. Pretoria: Government Printers.

Reyes, G. 2010. Theoretical aspects of non-linear models and applications in public policy analysis. *Estudios en Derecho y Gobierno*, 3(1): 33-46.

Riley BL, Robinson KL, Gamble J, Finegood DT, Sheppard D, Penney TL, Best A, 2015, Knowledge to action for solving complex problems: insights from a review of nine international cases, Health promotion and chronic disease prevention Canada, *Research, Policy and Practice*, Vol 35, No 3, May, pp. 47-53

Rogers, P. J. 2008. Using programme theory to evaluate complicated and complex aspects of interventions. RMIT University, Melbourne, Australia

Rossiter, J.A. 2013. Model-based Predictive Control: A Practical Approach. Washington. CRC Press

Sandbrook, R. 1982. *The politics of basic life*. London: Heinemann.

Saunders, P. 2004. Towards a credible poverty framework: from income poverty to deprivation. SPRC Discussion Paper. No. 131. Sydney, Australia: University of New South Wales Social Policy Research Centre. Available from: <http://www.sprc.unsw.edu.au/dp/DP131.pdf>

Schaffernicht, M. 2010. Systems Research and Behavioural Science. Vol. 27, Issue 6. pp. 653 - 666

Scott, C. & Baehler, K. 2010. Adding Value to Policy Analysis and Advice. University of New South Wales Press Limited

Senge, P. M. 1990. *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Doubleday.

Sibani, P. Jensen, H.J. 2013. Stochastic Dynamics of Complex System, ISBN 978-1-84816-993-7, World Scientific and Imperial College Press

Slim, H. 1995. What is Development. *Development in Practice*, 5(2): 143-148.

Snowden, D. 2010. *Origins of Cynefin*. Singapore: Cognitive Edge

South African Yearbook. 2014/2015. Pretoria. Government Printers

Stacey, R. D. 2010. *Complexity and Organisational Reality*. New York: Routledge.

Statistics South Africa (STATSSA). 2011. *Census Report*. Pretoria. Government Printers

Statistics South Africa (STATSSA). 2012. *Poverty Report*. Pretoria: Government Printers.

Statistics South Africa (STATSSA). 2014. *General Household Survey 2013*. Pretoria: Government Printers.

Statistics South Africa (STATSSA). 2014. Presentation to KwaZulu-Natal Poverty LAB, Didima Resort, 31 August 2014.

Statistics South Africa (STATSSA). 2015. General Household Survey 2014. Pretoria: Government Printers.

Statistics South Africa (STATSSA). 2015. Methodological report on rebasing of national poverty lines and development on pilot provincial poverty lines – Technical Report. Pretoria: Government Printers.

Statistics South Africa (STATSSA). 2015. Presentation to the Population Association of Southern Africa Conference, University of KwaZulu-Natal, Durban, 10 August 2015.

Standing, G. 2010. Precariat Class. London: Bloomsbury

Standing, G. 2010. Work After Globalization: Building Occupational Citizenship. Chetlham, UK: Edward Elgar.

Stiglitz, J. 2012. The Price of Inequality. New York: Norton.

Stoke, R. E. 2008. The Case Study Method in Social Enquiry: Educational Research. Washington D.C.: American Educational Research Association.

Surman, T. 2006. Constellation Collaboration: A Model for Multi-Organisational Partnership. San Francisco, C.A.: Centre for Social Innovation.

TerreBlanche, M., & Durrheim, K, 1999. Research in Practice. Cape Town: University of Cape Town Press.

Townsend, T. 2012. Policy Advantage. New York: Routledge

Tsegay, Y. T., Rusare, M. & Mistry, R. 2014. Hidden Hunger in South Africa: The Faces of Hunger and Malnutrition in a Food-Secure Nation. Oxford: Oxfam International.

United Nations Development Programme International Poverty Centre. .2006. What is Poverty: Concepts and Measures. Poverty in Focus. New York.

United Nations Development Programme. 2015. Sustainable Development Goals. New York

United Nations Scientific, Educational and Cultural Organisation. 2001 Understanding Poverty. Geneva

Vennix J. 1996. Group Modelling Building: Facilitating Team Learning. Wiley: Chichester

Von Bertalanffy, L. 1968. General Systems Theory. Penguin, Harmondsworth, UK.

Von Holdt, K. 2012. Precariat Class: The Making and Unmaking of Social Orders. Paper Presented to SWOP Colloquium on 'The Politics of Precarious Society: Comparative Perspectives on the Global South, Johannesburg, 4 – 6 September 2012

Waddel, S. 2005. Societal Learning and Change. London: Greenleaf Publishers

Waring, A. 1996. Practical Systems Thinking. London: Thompson Learning.

Weber, J.E. 2008. "Symposium: Complexity of Public Policy and Public Administration," Public Administration Quarterly, ISSN 0734-9149, 32(3).

Welman, J.C & Kruger, S.J. 1999. Research Methodology for Business and Administrative Sciences. Johannesburg: South Africa, International Thompson

Wiid, J. & Diggins, C. 2013. Market Research, 2nd Edition. Juta & Company. Cape Town

Williams, B. 2005. Soft Systems Methodology, Modified December 2005. Kellogg Foundation

Williams, B. Hummelbrunner, R. 2010. Systems Concepts in Action: A Practitioner's Toolkit. Sanford California. Stanford University Press

Woolard, I. & Leibrandt, M.1999. Measuring Poverty in South Africa. University of Cape Town: Development Policy Research Unit

Yin, R. 2003. Case Study Research: Design and Methods. London. Sage.

Yin, R. 2013. Case Study Research: Design and Methods. London. Sage.

Zhang, Y. & Wildemuth, B. M. 2009. Qualitative Analysis of Content: In: Wildemuth, B. M. ed. Application of Social Research Methods to Questions in Information and Library Science. Westport, C.T.: Libraries Unlimited.

Zimmerman, B. 2011. Schulich School of Business, York University, Edgeware Aides, Toronto, Canada

APPENDIXES



UNIVERSITY OF
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YAKWAZULU-NATALI

09 September 2015

Mr Frederick Matthews Damsani Xaba (962115290)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Xaba,

Protocol reference number: HSS/0971/015M

Project title: Public Policy and KZN's Integrated Poverty Eradication Programme: A complexity perspective

Full Approval – Expedited Application

With regards to your application received on 23 July 2015, the documents submitted have been accepted by the Humanities & Social Sciences Research Ethics Committee and FULL APPROVAL for the protocol has been granted.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shanika Singh (Chair)

/ms

Cc Supervisor: Dr S Hardman
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarine Bullyrsaj

Humanities & Social Sciences Research Ethics Committee

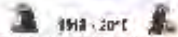
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Dr Shonuka Singh (Chair)

/ms

Cc Supervisor: Dr S Hardman
Cc Academic Leader (Research): Dr Muhammad Hoque
Cc School Administrator: Ms Zarine Bullyraj

Humanities & Social Sciences Research Ethics Committee

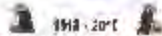
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