



**An Exploratory Study on Electricity Theft in Staram Informal
Settlement in Tongaat in Durban, KwaZulu-Natal Province**

By

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SUPERVISOR: DOCTOR EK SIBANYONI

2019

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Submitted in accordance with the requirements for the degree of Master of Social Science in Criminology and Forensics Studies in the school of Applied Human Sciences, College of Humanities at the University of Kwazulu-Natal

I cannot guarantee that the changes that I have suggested have been implemented nor do I take responsibility for any other changes or additions that may have been made subsequently.

Any other queries related to the language and technical editing of this treatise may be directed to me at 076 481 8341.

Dated at Port Elizabeth on 24 June 2019

A handwritten signature in black ink, appearing to be "D.K. Dewes".

D.K. Dewes

DEDICATION

This dissertation is dedicated to the following special people in my life:

- My grandmother (Mrs Thoko Grace Khwela) for all her care and protection shown over the years;
- My manager (Mr Sihle Griffiths) for his unconditional love, undying support, and for believing in me; and
- Both my Khwela and Luthuli family members, and anyone else, who believed in me throughout my career, or who meaningfully contributed to the realisation of this dissertation.

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First and foremost, I thank God Almighty for the will, strength, and wisdom He provided during this study. I acknowledge that without His guidance, I would not have made it this far.

Secondly, thank you to my supervisor, Dr Ephraim Kevin Sibanyoni for your continuous push and encouragement throughout everything. There were times when I nearly gave up, especially during the collection of data stages. However, your active and unwavering support made me realise that I had a friend holding my hand all the way. Additionally, your constant encouragement, suggestions and feedback during the writing process were valuable to the development and progression of this dissertation.

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This study would also not have been possible without contributions from the Staram residents. Thanks, especially to Mr Mhlongo for facilitating the recruitment process and support.

Thanks to Owami Mseleku, my beautiful daughter, for inspiring me to be a better mother. I pray that one day you grow up to achieve more than I have. Shine bright and be the brightest shining star wherever you go!

God bless you all.

BIOGRAPHY OF THE RESEARCHER

The researcher was born on the 12th of April 1989, by late Njabulo Thelma Rose Khwela and Sbongiseni Criswell Luthuli under the twelve apostolic church families in uMthwalume, South Coast (eMathulini area). The researcher completed her foundation phase programme at Rossetenville Primary School in 2001 and matriculated in 2006 at the Bonella Secondary School in Mayville, Durban, KwaZulu-Natal (KZN).

She completed her bachelor's degree in Social Work (Criminology) through the University of South Africa (UNISA) in December 2016 and became a qualified and registered Social Worker with the South African Council for Social Service Professions in March 2017, where she is currently still employed. Before qualification, she worked as a Student Social Worker at Haven of Rest in Tongaat, Durban, from February 2015 to October 2015.

In January 2017, the researcher registered for the Master of Social Science in Criminology and Forensic Studies at University of KwaZulu-Natal (UKZN) in the College of Humanities. She aims to complete this degree in July 2019.

The researcher lost both parents in 2002 and is blessed with one adorable daughter (Owami Mseleku) who was born on the 5th of July 2006.

ABSTRACT

This study focussed on electricity theft in Staram, an informal settlement in Tongaat, Durban, in KwaZulu-Natal. Staram was chosen as the study site as the Tongaat area has been identified as a ‘hot spot’ for electricity theft in Durban. The objectives of the study were to (i) explore the causes of electricity theft in Staram and (ii) assess the nature of electricity theft in Staram; (iii) examine the challenges of responding to electricity theft in Staram; and (iv) evaluate the current preventative measures employed for mitigating electricity theft in Staram. Staram is divided into three sections: Endliniyomlilo, Harry and Eziweni, and the study covered all these sections. At the time of the study, Endliniyomlilo was electrified and about 12 houses had maintained their electricity; the other two sections did not have electricity. For this study, in-depth, face-to-face interviews were employed for data collection. This study consisted of 15 participants who were chosen on the basis that in-depth data via in-depth interviews could be elicited in order to achieve all the objectives. Five participants were selected from each of the three sections. They were chosen because they were residents in the area of study as well as victims and/or perpetrators of electricity theft. The data were collected in February 2017.

This study was informed by Beccaria (1767) Rational Choice Theory (RCT), Shaw and McKay’s (1942) Social Disorganisation Theory (SDT), and the Chicago School of Criminology’s (1942) Economic Theory. This study used RCT and SDT in understanding the manner in which people engage themselves in electricity theft. The Economic Theory was used to understand the causes of electricity theft, as it argues that criminal acts are committed in instances where the amount of gain from a crime is greater than the costs expected, while also being concerned with how society utilises its scarce resources (Becker, 1968:820). It is important to understand that electricity theft is a global problem and it has a negative impact not only on human but also economic terms. This study determined that electricity theft affects everyone, physically endangers people’s lives and socially, can cause an overload of the network, which can result in unplanned outages. As such, electricity theft can negatively affect the smooth operation of traffic lights, business practices or the emergency services such as hospitals and affects the economy and puts undue strain on the municipality and the government revenue.

KEY WORDS: Electricity theft, Informal settlements

TABLE OF CONTENTS

DECLARATION OF PLAGARISM.....	i
EDITORS DECLARATION	ii
DEDICATION.....	iii
ACKNOWLEDGMENT	iv
BIOGRAPHY OF THE RESEARCHER	v
ABSTRACT.....	vi
LIST OF FIGURES	xi
LIST OF TABLES	xii
LIST OF ACRONYMS	xiii

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND	1
1.2 DEFINITION OF KEY CONCEPTS	3
1.2.1 Electricity theft.....	3
1.2.2 Electricity fraud (meter tampering and bypassing).....	3
1.2.3 Stealing (illegal connections) to add.....	3
1.2.4 Billing irregularities	4
1.2.5 Non-payment of unpaid bills	4
1.2.6 Informal settlements.....	4
1.3 PROBLEM STATEMENT	5
1.4 RESEARCH OBJECTIVES	9
1.5 RESEARCH QUESTIONS	9
1.6 JUSTIFICATION OF THE STUDY	10
1.7 AIM OF THE STUDY.....	10
1.8 LAYOUT OF THE CHAPTERS	11
1.9 CONCLUSION.....	12

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION	13
2.2 UNDERSTANDING ELECTRICITY THEFT	14
2.3 CAUSES OF ELECTRICITY THEFT	17
2.4 IMPACTS OF ELECTRICITY THEFT	20

2.5	EXTENT OF ELECTRICITY THEFT IN SOUTH AFRICA.....	20
2.6	IMPACT OF ELECTRICITY THEFT IN SOUTH AFRICA	23
2.7	ELECTRICITY THEFT IN INFORMAL SETTLEMENTS	24
2.8	ELECTRICITY THEFT IN KWAZULU-NATAL	26
2.9	CAUSES OF ELECTRICITY THEFT IN SOUTH AFRICA.....	26
2.10	PREVENTION MEASURES IN RESPONSE TO ELECTRICITY THEFT.....	28
2.11	CONCLUSION	31

CHAPTER 3

THEORETICAL FRAMEWORK

3.1	INTRODUCTION	32
3.2	SOCIAL DISORGANISATION THEORY	32
3.3	FACTORS RELATED TO SOCIAL DISORGANISATION.....	35
3.3.1	Poverty	35
3.3.2	Residential mobility	35
3.4	RATIONAL CHOICE THEORY	36
3.5	ECONOMIC THEORY	37
3.6	CONCLUSION	39

CHAPTER 4

RESEARCH METHODOLOGY

4.1	INTRODUCTION	40
4.2	RESEARCH DESIGN	40
4.2.1	Exploratory design	40
4.3	STUDY APPROACH	40
4.4	LOCATION OF THE STUDY	41
4.5	SAMPLING	42
4.6	DATA COLLECTION.....	44
4.6.1	Interviews.....	44
4.6.2	The interview process	44
4.7	DATA ANALYSIS.....	45
4.7.1	Thematic analysis.....	46
4.8	METHODS TO ENSURE TRUSTWORTHINESS OF THE STUDY.....	46
4.8.2	Credibility	47
4.8.3	Transferability.....	47

4.8.4	Dependability	47
4.8.5	Confirmability	48
4.9	ETHICAL CONSIDERATIONS	48
4.9.1	Informed consent (see appendix)	49
4.9.3	Confidentiality and anonymity	50
4.9.4	Management of information	51
4.10	SUMMARY	51

CHAPTER 5

DATA PRESENTATION, ANALYSIS, AND INTEPRETATION OF FINDINGS

5.1	INTRODUCTION	53
5.2	PARTICIPANTS' BACKGROUND INFORMATION	54
5.3	THEME 1: INFORMAL SETTLEMENTS' SETTING AS A DRIVING FACTOR IN ELECTRICITY THEFT.....	55
5.4	THEME 2: ANGER AND POVERTY AS A CAUSE OF ELECTRICITY THEFT..	56
5.5	THEME 3: THE NEED FOR ELECTRICITY AS A DRIVING FACTOR IN ELECTRICITY THEFT.....	58
5.6	THEME 4: ELECTRICITY THEFT AS A RESULT OF GOVERNMENT'S NEGLIGENCE	60
5.7	THEME 5: THE NATURE OF ELECTRICITY IN THE STARAM INFORMAL SETTLEMENT	62
5.8	THEME 6: THE CHALLENGES OF RESPONDING TO ELECTRICITY THEFT IN THE STARAM INFORMAL SETTLEMENT.....	64
5.9	THEME 7: CURRENT PREVENTATIVE MEASURES IN STARAM INFORMAL SETTLEMENT	65
5.10	CONCLUSION.....	67

CHAPTER 6

DISCUSSION OF FINDINGS

6.1	INTRODUCTION	68
6.2	OBJECTIVE 1 - RESEARCH QUESTION 1:	68
6.2.1	Poverty	69
6.2.2	Migration and overpopulation.....	71
6.2.3	The increasing number of informal settlements and the scarcity of electricity ..	71
6.2.4	The need for electricity as a driving factor in electricity theft.....	72
6.2.5	Dissatisfaction with service delivery by the eThekweni municipality	73
6.2.6	Voting	73

6.3	OBJECTIVE 2-RESEARCH QUESTION 2:	74
6.4	OBJECTIVE 3 -RESEARCH QUESTION3	75
6.4.1	High demand, poor delivery	75
6.4.2	Ineffectual law enforcement	76
6.4.3	Shortage of resources and corruption	77
6.5	OBJECTIVE 4 -RESEARCH QUESTION4	78
6.6	CONCLUSION	78

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1	INTRODUCTION	79
7.2	CONCLUSION	79
7.3	MAJOR FINDINGS OF THE STUDY	81
7.4	RECOMMENDATIONS	83
	REFERENCES.....	86
	ANNEXURES.....	98
	ANNEXURES A: COUNCILLOR PERMISSION TO CONDUCT RESEARCH	98
	ANNEXURES B: REQUEST FOR PERMISSION TO CONDUCT RESEARCH	99
	ANNEXURES C: RESEARCH APPROVAL LETTER.....	100
	ANNEXURES D: INFORMED CONSENT LETTER	101

LIST OF FIGURES

Figure 1.1 Illegal electricity connection endanger lives	6
Figure 1.2 Places where electricity theft occurs	9
Figure 2.1 Electricity theft is a punishable offence	17
Figure 2.2 eThekweni Revenue Protection Services personnel work tirelessly to disconnect illegally connected electrical wires. SOURCE: Phoenix Sun (2016).	223
Figure 3.1 Leading factors of social disorganisation/electricity theft.....	36
Figure 4.1 Location of Hambanathi – consisting of Ward 61, Harry’s Farm, the Firehouse and the Staram informal settlements in Tongaat	43

LIST OF TABLES

Table 5.1 Demographic data of participants	54
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LIST OF ACRONYMS

BICA	Business, Industry, Commerce and Agriculture
CEO	Chief Executive Operator
FBE	Free Basic Electricity
GWh	Gigawatt hours
HSSREC	Humanities and Social Sciences Research Ethics Committee
IEP	Integrated Energy Plan
KZN	KwaZulu Natal
NTL	Non-technical Energy Losses
OECD	Organisation for Economic Co-operation and Development
RCT	Rational Choice Theory
RDP	Reconstruction and Development Programme
SAPS	South African Police Service
SDT	Social Disorganisation Theory
UKZN	University of KwaZulu-Natal
VEMS	Vigilant Energy Meters

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Electricity theft is one of the most serious but under reported crime in South Africa in spite of the consequences, including deaths that result from illegal connections (Zuberi, 2015:20); Dileep, 2016:56; , Eskom, 2016:4; Daily news 2018:9) . Electricity theft is said to be the third largest crime globally after debit and car theft (The Mercury, 2016:4). The country loses at least R20-billion a year as indicated by Eskom (2016:4). It is a criminal offence that if one gets caught one could face a jail sentence, however it is conceivable that many people consider this a small risk to take in exchange for long periods of free electricity (Clarke, 2016:1417). The people's perceptions that nobody can be arrested for stealing electricity is an invalid example as more than 50% of people have been arrested in recent time by Operation Khanyisa campaign while 26 cases have been opened on the courts roll of Dileep (Eskom, 2016:5). Electricity theft is a global issue affecting a lot of countries around the world (Lowvelder, 2016:54). According to Bala (The Mercury, 2016:4), electricity theft affects the stability of the national grid and it contributes to rising costs, joblessness and slow economic growth.

This study elicited the views of Staram residents in Tongaat, KwaZulu-Natal (KZN), to explore the causes of electricity theft in the informal settlement. The study purposed to assess the nature of electricity theft and examine the challenges of responding to such theft. It also evaluated the current preventative measures for reducing electricity theft. From the findings, the study proposed ways in which electricity theft can be addressed, as well as ways to fight against this phenomenon in informal settlements, with a particular focus on the Staram informal settlement. This research was important, as currently, about 50% of cases that have been opened by Operation Khanyisa have not made it to the court roll (ESA Africa Operation Khanyisa 2016:7). An Eskom National Survey in 2016 revealed that while about 96% South Africans are aware that electricity theft is a crime, only 16% actually believe that they will get caught, and 14% believe that they would be prosecuted for it (Lowvelder, 2016:56). These statistics show that the law needs to play a much more prominent role and implement appropriate preventative measures of electricity theft in informal settings, such as Staram.

Stealing or tampering with electricity is a crime that affects everyone in the area – directly or indirectly. Penalties for stealing electricity are governed by the Great Johannesburg Metropolitan Electricity By-laws and the common law (Property, 2013:24).

According to Eskom's Operation Khanyisa (2016:8), people need to report electricity theft as soon as possible to electricity supplying companies so that strategic responses are provided in time. Eskom launched its national Operation Khanyisa campaign in 2010, with the aim to promote the legal, safe and efficient use of electricity. As part of its campaign's strategy, Operation Khanyisa intends to enforce laws against perpetrators in all sectors, including business and residential (Operation Khanyisa, 2016:8).

Before the launch of Operation Khanyisa campaign electricity theft was a silent crime. However, since 2010 to 2013, there has been significant achievements, with Eskom receiving 19 760 tip-offs through Operation Khanyisa, more than 120 arrests were made, an excess of R 689 million in revenues recovered, more than R 121 million recovered in tamper fines, and over 138 542 disconnections of illegal connections and tampered meters occurred (Operation Khanyisa, 2016:107). In addition to that Bala (The Mercury, 2016:5) highlighted on the South Coast briefing that 6000 illegally connected households in KZN mainly informal settlements and in formalised settlements are tampering with meters and other issue were illegal prepaid voucher trading, electricity infrastructure theft and refusal to pay.

Electricity is vital to households, businesses and municipalities. For most households, electricity is the principal source of energy. While electricity plays an important role in enhancing the economy and wellbeing of a society, it also holds within it challenges resulting from illegal connections, which constitute electricity theft (Electricity Budget, 2011:118). Against this background, the newly elected democratic government initiated a large-scale electrification programme with the objective of improving access to electricity for the poor and ultimately, providing access to electricity for all South Africans (Kamoto, 2005:25). However, as informal settlements developed, and continue to grow, more power outlets are required and local utilities cannot always provide electricity supply at short notice (Gaunt, Solida, Macfarlane, Maboda, Reddy & Borchers, 2012:78). The lack of electricity, therefore, remains a challenge in urban areas, especially in relation to overpopulation. This issue is also not unique to South Africa. There has been a general increase of populations in cities due to urbanisation across the world. Based on a 2013 World Bank Report (Bruekner & Lall, 2014:550), an additional 2.7 billion people in developing countries would have moved to urban areas by the year 2050. The most common type

of urbanisation occurs when people migrate to urban areas to seek economic opportunities and better their living standard (Ghani, 2017:66). However, such actions do not always turn out positively, as many migrants often find themselves trapped in unemployment and poverty cycles (Standing, 1981). Ramaloko (2014:158) mentions that electricity theft takes place everywhere – in wealthy households, poor residential areas, businesses, farms, and even by Eskom employees. Staram is one of an old informal settlement in Tongaat Durban with the residents that have lived there more than a decade experiencing the poor service delivery which makes it a good example of a growing settlement where the municipality is failing to adequately provide for residents' electricity needs. People like to migrate to Durban as it is recognised as a friendly, politically and economically stable city for individuals to survive. This introductory chapter includes the background of the research, definition of concepts, problem statement, objectives of the study, research questions, rationale of the study, and structure of the study. Each aspect is presented in the following sections.

1.2 DEFINITION OF KEY CONCEPTS

1.2.1 Electricity theft

Electricity theft is the "...practice of using electricity from the utility company without the company's authorisation or consent" (Abdullateef, 2012:1). According to Smith (2004:2067), electricity theft occurs in different forms as defined below:

1.2.2 Electricity fraud (meter tampering and bypassing)

Electricity fraud is defined as a "dishonest and illegal use of electricity equipment or services with the intention to avoid billing charge" (Dangar and Joshi, 2015:30).

1.2.3 Stealing (illegal connections)

Smith (2004:2067) defines electricity illegal connections as rigging a line from the power source to where it needed thus bypassing meter.

According to Vuk'zenzele (2014:33), illegal connections endangers people's lives and can cause an overload of power supply and a drop in voltage of the main supply, since the main supply has a specific number of loads that it can carry and the strain on the main supply can, in turn, lead to

frequent power outages and cuts. Moreover, faulty connections and overloading can lead to fire outbreaks and may also cause damage to electrical appliances and such damages may lead to loss of revenue to the government authorities that provide power.

1.2.4 Billing irregularities

These occur in different ways and incorporate inaccurate meter readings taken by bribed servicemen and/or the intentional fixing of a bill by officers in exchange for illicit payments from consumers (Dike, 2015:63). For example, authorities get lower bills for their power usage and this translates to higher costs for other consumers and it is also very possible for some systems or employees of national power authorities to arrange for lower bills to be given, whereby the amount of power used costs more (Smith, 2004:2067).

1.2.5 Non-payment of unpaid bills

It is not always the poor who cannot afford (or opt not) to pay for billed electricity, there can also be cases of rich and influential people who know that, because of their status, their electricity will not be cut off – regardless of whether they pay their bills or not (Bless & Higson, 2006:58). Non-technical losses (NTLs) comprise one of the most important concerns for electricity distribution utilities worldwide. In 2004, Tenaga Nasional Berhad (TNB), the sole electricity provider in Peninsular Malaysia recorded revenue losses as high as USD 229 million a year as a result of electricity theft, billing errors and faulty metering. NTLs faced by electric utility companies in the United States were estimated between 0.5% and 3.5% of gross annual revenue, which is relatively low when compared to losses faced by electric utilities in developing countries such as Bangladesh and Pakistan (Nagi, Yap, Tiong & Ahmed, 2008:5). This type of electricity theft cannot be accurately measured; however, it can be traditionally estimated, usually by conducting thorough analyses of power stations or using balance meters (Smith, 2004:2068).

1.2.6 Informal settlements

‘Informal settlements’ refer to inadequate households located in urban areas presented with a lack of basic services such as access roads, electricity, and water and sanitation (UN-Habitat, 2006:301). According to Turok (2015:64) informal settlements have a poor reputation as hotspots of social unrest, squalor and crime as they are exposed to hardship, insecurity and hazards from living in neglected and overcrowded areas.

1.3 PROBLEM STATEMENT

According to Eskom's Operation Khanyisa (2016:2) data, electricity theft is a global problem whereby billions of dollars are lost annually to electricity theft. In a sample of 102 countries, between the years 1980 and 2000, evidence from a comparative analysis by Smith (2004:2070) shows that electricity theft is increasing in most regions of the world, and electrical systems are never 100% secure from theft.

Eskom reported in its Operation Khanyisa (2016:10) document that the company lost almost R 15.4 billion in the budget year of 2016, losses due to electricity theft were reported at around R 4.7 billion, from these losses, 46% were based on residential losses, while 54% were related to losses experienced in Business, Industry, Commerce and Agriculture (BICA). As a result, it does not allow Eskom to be able to predict the demand of electricity in a country which causes the power shortages due to the overloading of the system. Quantifying the exact costs of load shedding is difficult since losses go beyond lost units of production (Mohamed, 2015). Load shedding is having an adverse effect on business because running a generator is extremely expensive as R1000 of diesel only last for two days, so businesspeople are forced to close during load shedding meanwhile their sales drop drastically, Lawson (The Witness, 2014:4). In addition, in 2016, electricity theft's cost to eThekweni Municipality was more than R 150 million (News 24, 2016:5). This money was used to fix damaged meter boxes and replace vandalised infrastructure resulting from thefts. According to the City of Tshwane, loss due to electricity theft increased by 83% (around R 416 million) during the 2013/2014 financial year, compared to previous years (Yelland, 2015:3).

In addition, not only does electricity theft lead to financial losses, but also cause serious health-risks or even the loss of human life. Such issues then further negatively influence the economy because Government has to support the injured who cannot work by providing for them in the form of grants. Many people, pets and livestock are killed as a result of illegal electricity connections, improper housing, cable theft and low-hanging conductors (Vuk'zenzele, 2011:80). Power theft also carries deadly risks and illegal connections can claim the lives of not only the perpetrators but also of innocent community members (Vuk'zenzele, 2014:33).



Figure 1.1 Illegal electricity connection endanger lives

Source: Google images, 2019: n.p.

Electrocution is a serious consequence of illegal connections, it may benefit those who are stealing electricity but mainly it affects even those who are not directly linked to the crime (Lowvelder, 2016:58) (see figure 2.3) for example. According to Shekara, Depuru, Wang, and Devabhaktuni (2010:4), “An illegal connection is located between two genuine meters, if the illegal consumer’s load is directly linked to distribution feeder or the illegal consumer’s load will be parallel to a legal customer if the thief uses extra phase before a genuine customer”.

Economically, Operation Khanyisa (2016:3) states that “In SA electricity theft and the energy losses suffered by Eskom and municipalities contribute to increased electricity tariffs”. Eskom has made an urgent application to energy regulator Nersa to increase the electricity tariff by 25.3% for the 2015 and 2016 financial year, including the 12.69% price increase that has been approved (Daily news, 2018:9) While Mabuza reported on engagement, Eskom has applied to increase electricity tariffs by 15% annually over the next three years to recovery revenue, totalling to R762 billion from electricity theft users. In Johannesburg informal settlements multitudes of illegal connections were found where the consumers were getting electricity for free meanwhile the taxpayer citizens were paying for electricity Marx (Fin24, 2015:7). Several organisations highlighted that allowing such increase would be improper and unwise (The times, 2016:4) In line with Yelland Fin24 (2015:3) said Nersa should reject Eskom electricity tariff because it is

“unreasonable, unfair and fundamentally dishonest”. Furthermore, this increase in tariffs affect municipalities financially. For example, Eskom will need to buy more power station because of increasing demand for electricity around the country meanwhile in 2004 November Eskom fell 4000 megawatts short of electricity country’s demand of 28 000 megawatts. This leads to debt and failure in electrifying more power to the communities and leave the electricity consumers in a blackout and business will be closed and 200 0000 of people will lose their jobs, Brown (The times, 2017) and Molefe (The times, 2016:4).

The poor are usually blamed for illegal connections, but agricultural residents and businesses are also often to blame (Vuk’zenzele, 2011:79). Kadzinga in EE Publishers (2016:4) stated that, highly visibility of illegal connections and meter tampering lead to misinterpretation that electricity theft takes place mostly in townships and informal settlements. In fact, electricity theft by large power users is far more sophisticated, less hazardous and more discreet and prevalent than expected as Eskom businesses, industry commerce and agriculture (BICA) account for 54% of electricity theft. John in All News 2016 reported that a number of small businesses were found to illegally connected to electricity supply aided by unscrupulous contractor, for example, a tavern owner and popular pizza shop appeared in Mankweng Magistrates court and was fined after Eskom discovered that his business had been illegally connected since 2011 (John, 2016:5).

In 2017, News24 reported that a woman believed to be the kingpin of a syndicate selling prepaid electricity was sentenced to 42 years in prison at the South Gauteng High Court in Johannesburg together with her son after being found guilty of participating in a criminal enterprise, theft of an Eskom credit dispensing machine and numerous counts of electricity theft. The son was sentenced to 12 years in prison (Fin24, 2018:3). Also, Ana reported in July (Energy, 2018) that a woman was arrested after Eskom's security team caught her doing the illegal connection and she was charged with tampering with essential infrastructure and released on R1,000 bail, the statement said.

Katiyar Case Study from Rajasthan (Weekly February, 2005:8) stated that there are three main categories of electricity consumption which are agriculture, domestic, and industry. Amongst this agriculture is widely recognized to be a key contributor to high distribution losses arising from low tariff and extensive theft. The existence of a huge backlog of agriculture connections waitlist for agriculture connections exceeds decades, farmers who applied for an agriculture connection in 1989 were still to be granted connection. Supply of electricity to agriculture is highly subsidised. This provides an incentive to farmers to tap the lines illegally. Furthermore, non-residential electricity thieves include owners and operators of major industries who use methods to bypass

electricity meters. Operation Khanyisa (2010:15) focuses on electrical employees, electrical contractors, and municipalities in a bid to urge them to stop being involved in criminal activities such as taking bribes from customers to help them steal electricity. Some locally owned businesses such as spaza shops and car washes rely entirely on illegally connected cables to keep afloat (Sowetan Live, 2016).

As stated in the Operation Khanyisa (2016:12) report, the major perpetrators of electricity theft are: consumers, internal electrical employees, and electrical contractors. Eskom's former Chief Executive Operator (CEO), Brain Dames said that Eskom has asked the Justice Department and Prosecuting Authority to change the law into making electricity theft a form of sabotage because this crime causes a serious disruption to transport and telecommunications across the country (Vuk'zenzele, 2011:82). From the previously presented information, it is clear that electricity theft takes place in many forms and occurs everywhere – in wealthy households, in poor residential areas, within businesses, amongst farmers, and even within Eskom itself. Figure 1.1 provides a visual breakdown of these electricity theft forms and areas.

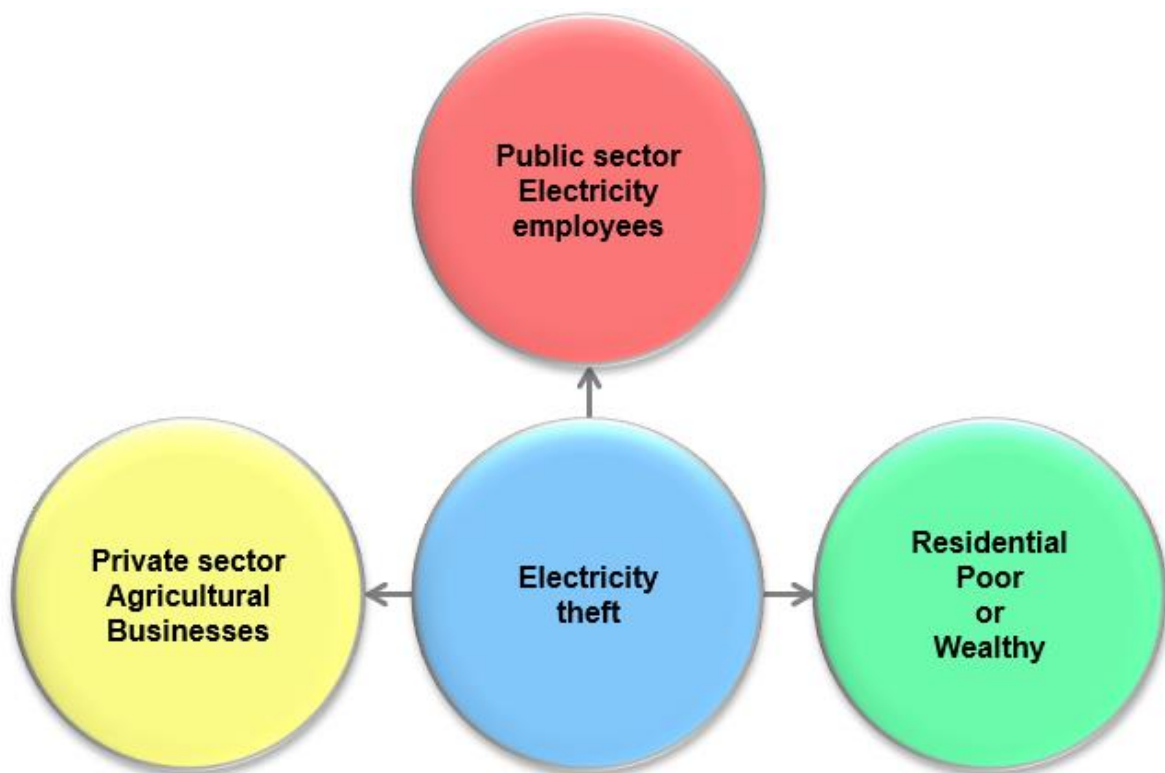


Figure 1.2 Places where electricity theft occurs

Source: Author, 2019

1.4 RESEARCH OBJECTIVES

The concept “research objective” is defined by Fouche in (De Vos, 2005:104) as the step one has to take one by one realistically of grassroots level, within a certain time span in order to attain the dream. “It also donates the more concrete, measurable and more speedily attainable conception of the end towards which effort or ambition is directed.

Thus, the following research objectives guided the current study:

- To explore the causes of electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN.
- To assess the nature of electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN.
- To examine the challenges of responding to electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN.
- To evaluate the current preventative measures for mitigating electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN.

1.5 RESEARCH QUESTIONS

According to Creswell (2014:88), Leedy and Omrod (2013:17), the research questions are formulated to organize, delimit and to uncover new facts and to give directions to a study. For this study, the following research questions were created:

- What are the causes of electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN?
- What is the nature of electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN?
- What are the challenges of responding to electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN?
- What are the current preventative measures employed for mitigating electricity theft in the Saram informal settlement in Tongaat, Durban, in KZN?

1.6 JUSTIFICATION OF THE STUDY

The purpose of this study was to explore electricity theft in the Sitaram informal settlement in Tongaat, an area within Durban, in KZN. Specifically, the study aimed to explore electricity theft in relation to its negative impact on human lives and the economy. This particular area was chosen for the study because it is regarded as a 'hot spot' for electricity theft (Nkwanyana, 2017:112). There is evidence that the South African Police Service (SAPS) has worked tirelessly to disconnect tonnes of live wires and confiscate hundreds of cables which have been carelessly thrown over trees, grass, and makeshift electrical poles in the Sitaram area (Vuk'zenzele, 2011:79).

Due to electricity theft in KZN alone, 29 deaths and 82 serious injuries related to electricity theft were reported between 2014 and 2016 (Business Day, 2016 and The Mercury 2016:4)). This is supported by Sithole (2018:45) who highlighted that are many people who have died due to illegal connections in Tongaat. Illegal connections endanger lives, cause overload of the network which result in our planned outages for example and can affect the smooth operating of traffic light. Rakua in (Daily News, 2018:9). It further includes the hefty coast on replacement of infrastructure, hiring security and shut down of business operations Mthethwa (Weekly news2016:24). An example of the transformer that blew up in Belvedere Tongaat at Gwala's Farm informal settlements left the Belvedere residents in the dark most of the time due to illegal connections (Weekly news, 2016:24 and Coastal week, 2018). Marie (Weekly, 2016) said that electricity theft is an issue that has been going on in Tongaat for years despite numerous efforts made by the police, Eskom and eThekweni Municipality to curb electricity theft. According to Dlamini (2015), Thuthukani informal settlements in Tongaat has hundreds of exposed wires that has resulted in deaths and fatal injuries to the residents in July 2014 and 300 people protested in the M4 demanding houses electricity and toilets.

1.7 AIMS OF THE STUDY

As noted previously, this study focused on exploring the causes of electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN. The aim was to understand the motives behind this criminal behaviour and, in so doing, offer law enforcers recommendations and methods for providing appropriate sentences or fines. It is important to note that access to electricity, as part of service delivery is paramount to cases of electricity theft. Therefore, it is important that matters related to access of services and electricity in particular, are addressed in order to prioritise and improve the levels of unemployment and the wellbeing of people in informal settlements, such as those in Tongaat.

To that end, this study aimed to contribute in identifying the gap in knowledge regarding electricity theft and its impact and offer possible solutions to addressing the problem. It is crucial that the issue of electricity and access to electricity in informal settlements is given urgent attention if electricity theft is to be mitigated. This study, thus, sheds light on policy and energy regulation to better understand the issue. This means the research could assist policymakers and law enforcers who deal with electricity theft and with the provision of electricity in informal settlements to have a clearer understanding, which could be the basis of guidance in better future decision-making.

1.8 LAYOUT OF THE CHAPTERS

Chapter 1: General introduction of the study and problem formulation

This chapter introduced the study subject, discussed the problem, and provided the research questions, aim and objectives of this study.

Chapter 2: Literature review

This chapter presents an overview of the reviewed literature. It provides information about the impact, causes, nature, and extent of the phenomenon.

Chapter 3: Theoretical framework

This chapter provides a discussion of the research design and methodology, the research approach, the location of the study, the sampling and data collection methods, the data analysis procedures, and the ethical considerations that underpinned the study.

Chapter 4: Methodology

This chapter focuses on the research design and methodology, as adopted by the researcher in this study to assist in achieving the study aim and objectives, as well as in answering the study's key research questions.

Chapter 5: Data presentation, analysis, and discussion

This chapter provides a discussion of the collected data and presents and analyses the study findings.

Chapter 6: In the discussion the findings are integrated, discussed in detail and compared to the findings of the previous studies

Chapter 7: Conclusions and recommendations

This chapter concludes the dissertation and provides the conclusions and recommendations based on this study.

1.9 CONCLUSION

This chapter offered a general introduction to the study by highlighting its core concepts through a presentation of its background, rationale, aim and objectives. The motivation for choosing the topic and the reasons for undertaking this study were outlined. The research problem was also presented, along with brief reference to recent electricity theft issues experienced both locally and internationally. The chapter made it clear that the focus of the study was to explore electricity theft in the Staram informal settlement. The following chapter presents the literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The literature presented in this chapter was collected to explore the causes of electricity theft. Numerous reports indicate that electricity theft hampers economic growth mainly in developing countries (Gordhan et al., 2017:257; Katiyar, 2005:664; Kenny and Soreide, 2008:254). However, several scholars argue that electricity theft takes place everywhere regardless of whether it is a developed or developing country (Jamil, 2014:240; Glaunner 2016:57; Kelly-Detwiler, 2013:98).

However, Yurtseven (2015:73) states that electricity theft ratios between developing and developed countries differ substantially. For example, in the USA and Western Europe, electricity theft rates are very low, averaging only 1-2%, whilst, on average, nations highlighted as part of the Organisation for Economic Co-operation and Development (OECD) report electricity theft rate at 7%. Yurtseven (2015:73), citing Bhattacharya (2005:45), states that the electricity theft rate in developing countries, such as Malaysia, Bangladesh and Turkey, is far more considerable, with places like India even reaching theft levels as high as 30% of its total electric energy produced.

Based on this understanding of electricity theft in developing countries, this study aimed to better understand its relevance to the South African context. To that end, this chapter reviews the existing literature on electricity theft. It includes the following topics:

1. Understanding electricity theft;
2. Causes of electricity theft;
3. Impacts of electricity theft;
4. Extent of electricity theft in South Africa;
5. Impact of electricity theft in South Africa;
6. Electricity theft in informal settlements;
7. Electricity theft in KZN;
8. Causes of electricity theft in South Africa; and

9. Prevention measures in response to electricity theft.

2.2 UNDERSTANDING ELECTRICITY THEFT

Electricity theft remains a major challenge, not only to developing countries, but across the world where billions of US Dollars are lost each year (Eskom, 2016:4). According to Yakubu and Babu (2017:615), electricity theft result in the loss of large amounts of revenue due to the energy companies, part of which is passed on to the consumers in the form of higher tariffs. While there is a collective understanding of electricity theft and the negative impact it can have on economies and society in general, its definition and the nature of electricity theft are different (Smith, 2004:2072). Electricity theft involves direct hooking from lines and injecting foreign materials into meters, drilling holes into electromechanical energy meters by inserting film, depositing a highly viscous fluid, using strong magnets like neodymium magnets, changing the incoming and outgoing terminals of meters, damaging the pressure coil of meters, resetting energy meter readings, exposing meters to mechanical shock, and the improper or illegal calibration of energy meters (Saikiran & Hariharan, 2014:278).

Studies on electricity theft indicate that the nature and extent of electricity theft depends upon a multitude of factors and is influenced by the culture through which the power utility is managed (Abdullateef, 2012:2; Lundin, 2001:730; Smith, 2004:2072). Generally, electricity theft is the practice of using electricity from a utility company without the company's authorisation or consent (Abdullateef, 2012:1). In other words, the term 'electricity theft' refers to the non-technical loss of energy through the criminal practice of stealing electrical power (Smith, 2004:2073). Electricity theft can be considered a planned and well-organised criminal act, because those involved in electricity theft often need to plan its execution in detail beforehand (Marangoz, 2013:12).

Electricity theft differs according to the manner in which electricity is distributed (Clarke and Xu, 2004:2068). For example, electricity-related fraud can take place when a person who is using the electricity purposely tries to use electricity through deceiving cables. This can be done through tampering with the meter in order for it to read a lower usage than the actual usage amount. Electricity theft can also manifest through the illegal extraction of electricity from the power station into areas of interest (Smith, 2004:2075). In such a case, the connection of the electrical supply can be easily identified, since it is normally characterised by uncovered wires hanging or lying open on surfaces. However, taking action against area-wide illegal extraction has been reported to be difficult, since perpetrators often end up attacking the electricity employees who are

sent to clean up all the illegal connections, and some of the workers themselves may decide to accept bribes from community members, resulting in the continued stealing of electricity (Clarke & Xu, 2004:2070). One other way in which electricity can be stolen is through billing irregularities. Such irregularities can be achieved through the help of staff at the power supply authority. These participating staff may give higher charges to those consumers with a lower consumption and create low bills for their accomplices (Clarke & Xu, 2004:2017).

According to (Smith 2004:2074) electricity theft is a common occurrence in most countries, and enormous amounts of electricity are reported stolen every year across the world for most global distributing companies, the stealing of electricity ranges from 1%-2% of their total output. Yet, according to Estache, Goicoechea and Trujillo (2006:78), the loss of electricity to theft is still too high in developing countries considering the total loss in the power sector globally, which amounts to around 35%, and 14% of this loss is due to theft and the illegal usage of electricity. Such electricity loss leads to huge financial burdens and hinders potential investments. According to the statistics in SA, around 30% of total municipality come from electricity sales in 2015 but on June 2017 municipalities reported that electricity was decreasing largely due to Eskom's tariffs hikes, however, in Cape Town the sales were the lowest since 2006 (Fin24, 2017:5). At the same time non-payment rates and theft more than doubled in 2015 Ngidi (2017:37) further stated that higher tariffs lead to reduction in sales and increase have a negative inflationary impact on the constrained economy and reduce sales (Ngidi,2017:37)

The Democratic Alliances Natasha Mazzone stated that the larger increase in electricity prices will consume into the diminished income of the poor and lower income groups as well as detrimental effect on small business, manufactures and intensive. Mail and Guadian (2019:8) and Chauke in City Press (2019:3) further stated that electricity and failure to pay electricity bills would be exacerbated.

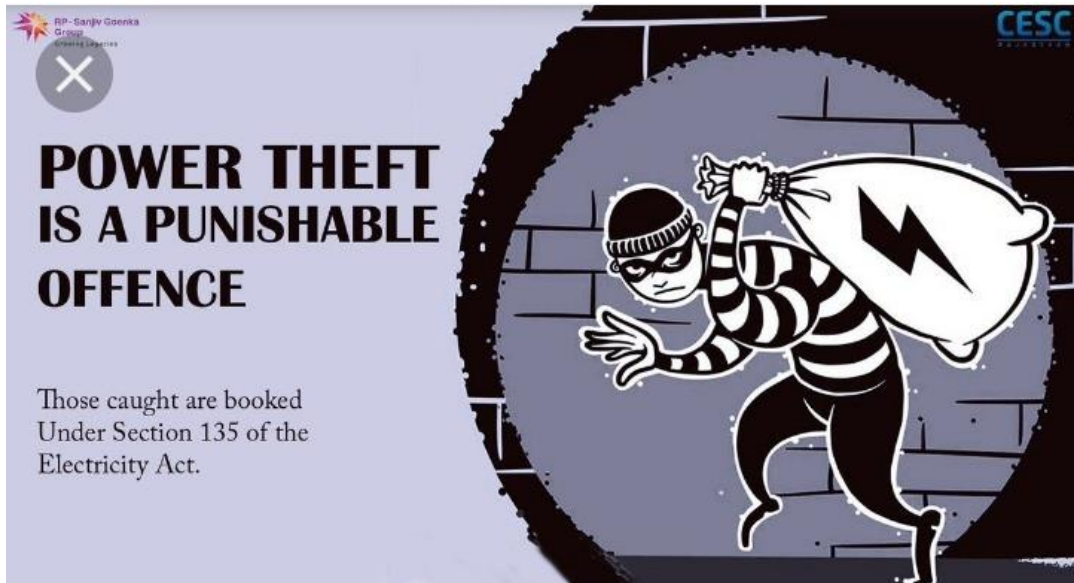
As noted previously, while electricity theft is common in developing countries, developed countries are not spared from such illegal practices. When looking at the case of the USA, it is argued that the cost related to electricity theft increases significantly through any given year – ranging from anywhere between 0,5% and 3,5% in a country and these percentages demonstrate that these kinds of amounts of energy loss are considered very high, since the country's revenue from the supply of SD2F electricity comes to approximately US\$ 200 billion (Smith, 2004:2075). In the UK, it was reported that cases of electricity theft resulted in around £ 500 million losses in a single year (Vllasaliu, 2014:563). The theft in the UK normally takes place through faulty meters

that are created by inserting film or pouring fluids onto the meters; this tampering can then lead to interruptions in the way the discs within the meters are supposed to move, thereby causing inaccurate readings (Vilasaliu, 2014:563).

In developing countries, such as Mexico, electricity theft results in the loss of as much as \$ 475 million in revenue annually (Sullivan, 2002:67). In developing countries most cases, electricity theft is facilitated by corrupt staff from electricity supply entities, with consumers bribing general staff or even the inspectors responsible for electricity control and usage (Vietorhivilansheldahl & Thomason, 2017:58). In Nigeria, the most common ways of stealing electricity include bypassing, the illegal tapping of electricity from feeders, meter tampering by grounding the neutral wire so that it does not measure readings, and mechanical methods to evade the payment of bills (Mbunwe & Nathan, 2016:19). Substantial amounts (up to 80%) of electricity theft detected in Nigeria are from residential buildings, while commercial and industrial electricity theft contributes 20% of the total.

The basic method of stealing electricity for both consumer types is through a direct wire connection to a main power route passing a shop or factory so that electricity can flow to the consumer without crossing the meter installed by a legally recognised agency (Mbunwe & Nathan, 2016:21). In India, consumers normally gain illegal connections through extracting power from existing power lines. This method is practiced in such a manner that it becomes easier to unplug the illegal connections should utility workers come (Golden & Min, 2012:8).

In South Africa, electricity theft is a punishable crime, recognised by the law under Section 135 of the Electricity Act of 2006 (see Figure 2.1). Yet, even though Eskom's National Survey in 2016 revealed that about 96% South Africans are aware that electricity theft is a crime, only 16% actually believed that they would get caught, and 14% believed that they would be prosecuted (Lowvelder, 2016:56). In an eNCA (2016) report, it was asserted that suspects who have been found guilty of electricity theft have only generally been handed sentences as short as 3-6 months. Participants also admitted that the theft of electricity in their community was not a secret activity. According to the reviewed literature, studies conducted by Massimiliano (2008:285) and Zhang (2016:335) in India Politic web (Mkhize (2018:13) in SA, it proves that electricity theft is a problem across the world regardless of whether it is developed or developing countries. South Africa is also similar in terms of perpetrators. The driving factors of electricity theft in SA, China, and the USA are migration, unemployment, inequality and poverty which negatively impact the economy. SA context will be discussed in detail in a later section.



Source: Google Images, 2019

Figure 2.1 Electricity theft is a punishable offence

2.3 CAUSES OF ELECTRICITY THEFT

The level of electricity theft is mostly higher in countries characterised by ineffective state and political systems, that are unstable, and that often experience higher levels of corruption. For example, in India, electricity theft might be caused by the malfunctioning in the government sector (Joseph, 2010:503). While this cause may be common in many countries, causes can also vary depending on the way a particular country's government supplies basic public services, as per their agreement in service delivery. Being in control of public power while simultaneously attempting to fulfil personal needs also holds some contribution to the level of fraud that occurs as part of electricity theft indeed, bribery in relation to energy procurement normally consists of electricity employees assisting consumers in the process of electricity theft (Joseph, 2010:503).

Electricity theft is an economic issue for the electricity company due to unbilled revenue of consumers who commit such action. (Deccache, Arango Bonatto, Arango & Pamplona, 2017:208) In Brazil the loss of revenue is a problem that can compromise the compliance with regulatory target and business efficiencies. The sale of electricity is the main form of revenue for a power distribution utility, however, not all purchased energy generators is sold to consumers as some are lost due to electrical losses from the conditional and characteristics of network and some is lost in the form of non-technical losses or commercial losses (Deccache, et al., 2017:209).

A study conducted by Miriam (2012:77) shows that consumers bribe officials so that they can illegally access electricity services (through meter tampering or the unauthorised connection to power lines) and/or make illegal installations of personal generators; all of which account for larger losses of electricity. According to Katiya (2005:644), using data from India demonstrates that stealing electricity is often also politically related. In the study, the author offered evidence that electricity theft occurred when the agricultural sector faced the reality that it would take longer than a decade before it gained access to government-supplied electricity (Katiya, 2005:644).

In some cases in India, there are also long waiting lists that result in owners of production lines illegally connecting to existing supply lines to sustain their businesses. Those who gained illegal access to power services reported that the supply did not last for more than 8 hours, after which burnout of conductors would occur. In such cases, bribes are often offered to engineers to ensure the illegal connection remains even after fixing (Katiya, 2005:646). In a study by Miriam (2011:94), it emerged that electricity theft in India normally occurs during election times. For example, Indian farmers who are well known to politicians are given extra permits to access electricity services to an extent that is far more than power capacities allow. In the USA, it is believed that electricity theft can be strongly linked to insufficient access to electricity supply, which is largely related to poverty – with some (poor) areas reporting complete deprivation from electricity supply.

Study results also demonstrate that economic factors such as the amount of income that a consumer receives in relation to electricity prices are closely linked to electricity theft (Gaur & Gupta, 2016). Therefore, it is envisaged that increases in consumers' incomes may result in a lower rate of electricity theft (Miriam, 2011). Electricity is a unique utility for a number of reasons but of particular importance is that it is difficult to store (Rivers, 2018). Electricity is a driving force of economic development.

While in China urbanisation is considered to be an engine of economic growth in developed countries, between 1978 and 2012 the economy of the People's Republic of China (PRC) industrial gross domestic (GDP) increased from 44.3% to 56.8% and the share of the urban population jumped from 17.92% to 49.96% (NBSC). As a result, urban and rural poverty declined dramatically (Zhang, 2016:584). In South Africa Mkhize (2018:13) in the urban conference in Johannesburg 30-31 October reported that The National Development Plan has estimated that by 2030, more than 70% of South Africa's population will be residing in urban centres. Unplanned urbanisation has brought South Africa huge challenges such as the proliferation of informal

settlements with attendant difficulties in provision of basic services and the inability to provide safety for communities as a result of rising crime levels which causes unstable communities where poverty levels are ever increasing. (Mkhize, 2018:14). In addition to that, migration and urbanisation has caused a huge inequality gap between the rich and poor and segregation between high- and/or middle-income households and low-density suburbs versus poor settlements and overcrowded townships (Zhang, 2016:336). In comparison to other African countries, South Africa's urbanisation is likely to report a significant difference between urban electricity theft and rural electricity theft (Andrew & Prachi, 2013:482). The reason for this is that in the context of South Africa, the factors that constitute electricity-related crime have more to do with the inequality gap between the rich and poor (Edmonds, 2013:83). This gap is evidenced by the trends and most common forms of electricity theft established in this study. Further examples in support of the relation between socio-economic factors and electricity crime can be seen in Khayelitsha in the Western Cape and Mdantsane in the Eastern Cape, where both areas report severely disadvantaged, poverty stricken, and high-density urban and rural communities that report common cases of illegal electricity connections (EE Publishers, 2008:4).

According to Gaunt et al. (2012:80), electrification is grouped into three sectors: rural electrification, formal urban electrification, and the electrification of informal urban settlements. In rural areas, the factors constituting electricity theft are mostly driven by underdevelopment, whilst in urban areas (including informal urban settlements), the main drivers include overpopulation. Thus, the socio-economic factors to consider when examining electricity theft in urban areas include, but are not limited to: electricity prices, urbanisation, poverty, capital income, rate of urban unemployment, total population, infrastructural investment, and the structure of the economy. Indeed, many migrants can often find themselves trapped in unemployment and poverty cycles (Standing, 1981). The problem is that households in informal settlements fall within indigent policies and have a monthly income of less than R 1 to R 500, or no income at all (eThekweni Municipality, 2011). Furthermore, many households in informal settlements are entirely dependent on housing subsidies to meet their housing needs (eThekweni Municipality, 2011).

A lack of electricity, thus, remains a challenge in urban areas due to overpopulation. Based on a 2013 World Bank Report (cited by Bruekner and Lall, 2014:552), an additional 2.7 billion people in developing countries would have moved to urban areas by the year 2050.

2.4 IMPACTS OF ELECTRICITY THEFT

The stealing of electricity has resulted in the Indian government losing much of its revenues and being unable to keep up with the pace in terms of the maintenance of existing public facilities. Electricity theft also leads to the government experiencing difficulties and insufficiencies in establishing infrastructure, for example, supplying transformers becomes difficult and this lack of transformers, in turn, creates more power shortages.

According to Golden (2012:87), who studied data from over ten years consisting of electrical receipts, businesses in India are the most affected by energy losses resulting from electricity theft. From a business perspective, stealing electricity contributes to economic losses. The main reasons for electricity theft vary from economic, political, to social implication. This finding was achieved through an analysis of when electricity theft normally took place during election years in relation to criminal charges. Furthermore, Depuru, Wang, Devabhaktuni and Nelapati (2014:5) highlight that the socio-economic conditions of the consumer contribute greatly to electricity theft. Case-in-point: evidence was captured when the authors determined that some agricultural sectors have faced the condition where accessing electricity has taken longer than a decade and resulted in long waiting lists that have caused farmers to begin connecting to power lines illegally (Depuru et al., 2014:6). During election times politicians would give promising speeches of ensuring that electricity would be provided within a certain period after these farmers had voted for that candidate; however, after voting, no provision of electricity is put in place (Depuru et al., 2014:6). Therefore, societies where service delivery fails end up breaking down and often lead to criminal activities, such as stealing electricity.

2.5 EXTENT OF ELECTRICITY THEFT IN SOUTH AFRICA

Forty-three percent of South Africans are considered as ‘energy poor’, meaning that they do not have access to adequate, reliable, safe and environmentally benign energy (Sustainable Energy Africa 2015 cited in Baker and Phillips 2018). South Africa’s electricity system has been historically determined by the country’s abundant coal supplier and complex of interaction between its social institution, networked infrastructures and technological capabilities (Baker, 2016 cited in Baker and Phillips (2018). Electricity theft is reported as one of the major problems in South Africa, and costs billions of South African rands in losses annually; such theft also ends

up taking the lives of many people every year (Vuk'zenzele 2011:79). It is an ongoing challenge and it takes many forms, not only the un-electrified residents areas stealing electricity but business with formal reticulation are also stealing electricity (Clarke, 2016:1420).

When Eskom wants to administer electricity in a community, it first looks at the amount of electricity that is needed in relation to the number of homes and residents residing there before electrifying the area (Operation Khanyisa, 2012:27 and Lowvelder, 2016:60). To illustrate this point, transformers to a given community are specifically designed to supply energy to the community's specific number of households. That is why illegal connections cause heavy loads to transformers and result in unplanned power outages that affect the smooth operation of traffic lights and other essential structures. As such, load shedding is conducted countrywide as a controlled option to respond to such unplanned events and to protect the electricity power system from a total blackout (Vuk'zenzele, 2011:81).

The South African government has included informal settlements in its provision of electrify services as a further means to reduce illegal connections (Bala, The Mercury, 2018:6). While electricity theft, and what it means, differs from country to country, in South Africa, there are three main types of power theft: (i) non-payment by legally connected consumers; (ii) illegal connections to the grid, or directly to cables; and (iii) cable theft for copper wiring (Ndletyana, 2007:96). Electricity theft problems in South Africa started about 16 years ago when Eskom companies adopted the paying policy for electricity usage in the country. Before that, residents were only required to pay the lowest rate, which was about R 24 a month and that price was not even a third of the current charges which resulted in residents failing to pay the demanded amount by Eskom. Due to their inability to pay for electricity, residents experience the continued disconnection of electricity, which, in turn, leads to increased cases of residents connecting to electricity illegally (Operation Khanyisa, 2012:27).

Another one of the main factors that promote an increased demand for electricity is industrialisation, where an increase in the number of industries and the use of machines results in an increased demand for electricity to operate them. Similarly, urbanisation, through the transformation of small villages into towns and cities due to an increasing of the population, also leads to an increased demand for electricity because every new house needs electricity. Case of Kosovo village, Mathare valley –Nairobi conducted by Moses (2013:15) highlighted that during colonial days, travel of African natives to urban areas was strictly controlled by the English settlers and the urban population at that time therefore had its housing needs met. However, after

independence, the population in the urban centres began to grow because the colonial restrictions on Africans travelling to the city were no more. As a result, the provision of housing was soon overtaken by the rapid urban population growth leading to emergence of squatter settlements for the poor. The response of government to this was poor, the population increased but the government failed to improve the service provision in relevant sectors such as housing. This then resulted in many people opting to settle in slums as they could not afford houses elsewhere (Moses, 2013:14-17). Modernisation and the emergence of new technological devices and facilities such as televisions and mobile phones also demand increased electricity supply. While the loss of electricity due to theft is alarming, there are currently no exact figures in monetary value within the South African context – these losses can, thus, only be estimated (Smith, 2004:2076). South Africa is characterised by circular migration, which means that rural-urban migration is not permanent (Wentzel, 2009:42). This results in overcrowded townships and informal settlements that increase the overall population in cities.

According to Mnyani (News24, 2018:5), there are provinces which are recognised as ‘hot spots’ for illegal electrical connections. Provincially, there are four provinces that are regarded as the worst for illegal electricity connections, namely the Free State, Mpumalanga, Limpopo Eastern Cape and North West. These provinces are reported highest provinces accounting most Eskom’s huge financial loss nationally as it was reported as the highest energy and revenue losses due to illegal connection and meter tempering. To fight this theft and non-payment Eskom has prioritised the hot spots provinces first by launching its 50% discount Incentive campaign in October till 31 December in three provinces. These provinces often include many households that have connected electricity to a single power station without Eskom’s knowledge (Lowvelder 2016:65). In South Africa, electricity illegal connections are one of the most popular forms of electricity theft and power outages may be due illegal connection Molefe (The citizen, 2017). Tempering with municipal meters is a serious problem in SA as millions of rands are lost every day, for example, the Nelson Mandela Bay alone in every seven household it believed to have meter tempering. Business Tech (2014) stated that Eskom loses about 7% of electricity through illegal connections. Yet, regardless of Eskom’s operations and attempts to mitigate electricity theft the fight between formal and informal dwellers is far from finishing as millions of residents still suffer from electricity theft (Coastal weekly, 2018:9).

In Phoenix Sun (2016), an article from 2016 titled *City Tackles Illegal Electricity Connections in Belvedere area Tongaat*, a reporter noted that a team of electricity officials, which was escorted

by members from the uThongathi SAPS, worked tirelessly to disconnect live wires and confiscate hundreds of cables which had been carelessly thrown over trees, grass, and makeshift electrical poles and people still continue to risk their and other people's lives by connecting electricity illegally (see Figure 2.5).



Figure 2.2 eThekweni Revenue Protection Services personnel work tirelessly to disconnect illegally connected electrical wires. SOURCE: Phoenix Sun (2016).

2.6 IMPACT OF ELECTRICITY THEFT IN SOUTH AFRICA

The shortage of water for four days in White River was due to illegal connection at Msholozhi Village. Ngubane in All News 2015 state that about 400 low-cost houses in Cato Crest were illegal connected to the Cato Manor substation and municipal electricity supply which causes a frequent power failure. Horn the resident said "...the stolen electricity is worth a lot of money because a lot of electricity is lost, and the ratepayers are footing the bill while Cato Crest resident enjoy free electricity." Electricity thieves' actions can lead to both community members and perpetrators being left vulnerable (Smith, 2010:44; Vuk'zenzele, 2014:30; Bala, The Mercury,2016:7). While illegal connections may be beneficial to perpetrators, they can cost innocent people's lives, including children who play outdoors, since the wires are often left uncovered and lying on the ground (Smith, 2010:44). The uncovered wires do not only electrically shock people, but they can also lead to the outbreak of fires within an affected community. According to Web (2017), fighting electricity theft is a battle that leaves Eskom with huge financial losses since the company must invest in resources that can help during raiding. Efforts to discourage illegal connections are often futile because raids and disconnection initiatives can be implemented, yet illegal connections

reappear again as soon as two or three days after the initiative. When looking at the social impact of electricity theft in South Africa, it is argued that aspects such as education, health departments such as clinics, hospitals, and businesses are severely affected since when a community is out of electricity, school schedules become disrupted and they are forced to close. As for the clinic and hospital, Bala (The Mercury, 2016:7) highlighted that the community members would go to the clinic and not find oxygen because there was no electricity (Mercury, 2016:7).

The country's economy is also disrupted since production and business operations shut down due to interruptions in electricity supply. As a result, businesses can no longer meet their daily demands, and, in turn, profits cannot be not maximised. Load shedding is having an adverse effect on businesses caused by electricity theft as small businesses across the province are feeling the pinch as Eskom rolling blackout as they cannot function without power and large industry cannot use generators to run, so their sales dropped dramatically. Lawson stated that generators cost huge amount to run because diesel is expensive and R1000 worth of diesel only last for two days (The Witness 2014:4). Ultimately, attempts at eradicating electricity theft should be at the heart of achieving an electrically sustainable South Africa (Smith, 2010:46). Electricity theft cost eThekweni Municipality more than 150 million to fix the damaged meter boxes and replace the vandalised infrastructure and Eskom stated that there will be no restoring of power to areas that have repeated failures due illegal connections (Fin, 2019:3).

From the information presented in this section, it is clear that the stealing of electricity has devastating consequences and is a serious social problem in South Africa. When electricity theft occurs, the charges and prices of electricity increases, (Operation Khanyisa, 2016:35). Generally, the illegal consumers do not pay for electricity bills accurately and do not need energy saving which result in electricity prices for the utility services to cover the unpaid consumptions from the paying customers.

2.7 ELECTRICITY THEFT IN INFORMAL SETTLEMENTS

According to Trevor (2010), it is often due to the given difficulties that municipalities encounter in their efforts to provide electricity that the levels of electricity theft in informal settlements are very high. As of 2012 over 10% of the population of SA lived in informal settlements, with major urban centres reporting over 3000,000 informal settlements households each (Lemaire & Kerr, 2016:10-11) According to Turok (2015:65) almost one in five residents of South African cities live in a shack, most of which are densely clustered in informal settlement as people migrate to the

urban areas with high hopes, resourcefulness and determination of social networks support, individual endeavour and enterprise, leading to enhanced human capital. Dawood (2016:5) notes that in Quarry Road informal settlement in Clare Estate, children died, and a fire destroyed about 40 shacks because of electricity theft. The city employed different initiatives in response to this tragedy, including the deployment of security guards, but this initiative was stopped after a security guard was killed. Perpetrators' charges were dropped because of lack of evidence and low fines were again imposed. The electricity theft in informal settlements mostly takes place through illegal connections attached to a nearby household or local power line. Provision of services to informal settlements by local municipalities, thus, becomes an important strategy. It is vital that municipalities deliver essential services to informal settlements, such as water and sanitation, road infrastructure, domestic waste collection, and electricity in order to abate the tide of poverty often associated with urbanisation (eThekweni Municipality, 2011). In addition to that South African government mandate to provide and ensure free basic electricity (FBE) to the poor to ensure that electricity becomes an accessible utility for everyone which allows 50kWh per month to the poor families (Eskom, 2016). Access to electricity is regarded an especially problematic issue in informal settlements (Bala, *The Mercury* 2016:7; Clarke, 2016:1420).

Electricity theft in informal settlements are highly related to NTLs that consist of electricity supplied via illegal connections to power lines (Lemaire, 2010:12). According to Lemaire (2010:12), the housing department responsible for delivering urban services is failing to meet the demands of growing urbanisation in South Africa. As such, informal settlements have begun to develop rapidly. Urbanisation in SA is urbanising rapidly: 63% of South Africans are already living in urban areas and the statistics will rise to 71% by 2030 and by 2050, 8 to 10 people will be living in urban areas and this will increase demand on basic infrastructure requirement like environment consequences such as unemployment, urban poverty poor living condition and criminality (Parliamentary Monitoring Group, 2018). In Tongaat the sugar industry is also experiencing low world sugar prices, so the local economy, which is heavily reliant on sugar farming is struggling, with its activity level well below the growth periods of the past since the study found that the majority was unemployed (Tonga Local Economic Development Strategy, 2008). South Africa is a developed and industrialised country in Southern hemisphere (Turok, 2012:12). Approximately two-thirds of South Africa's population reside in urban areas. The proportion of people living in urban areas increased from 52% in 1990 to 62% in 2011 (SAIRR, 2013). Once people move to the cities, they build shacks wherein to live a short period of time until they can afford high rents or to buy a house).

Due to high rates of electricity theft in such places, authorities from the electricity department are having issues formalising these areas with the hope that this will help to curb the high rate of electricity theft (Bala, The Mercury 2016:7; Lemaire and Kerr, 2016:5). According to Arndt, Davies and Thurlow (2018), the National GDP growth in South Africa averages 2.7% per year between 1993 and 2016. Furthermore, there are dangers in the implantation of formal electricity supplies within sections of informal settlements, since those without electricity then become more likely to illegally tap into the installed power line (Smith, 2010:46). Similarly Lemaire and Kerr (2016:10) stated that the informal settlements that have been formalised will continue to create new connections for new residents if housing development is not regulated and planned to further extend electricity connection to the new households because the population growth rate in informal settlements are high. Meter tapering and illegal connections contribute to a huge loss of electricity and removing of illegal connections has been proven to be fruitless. To reduce the level of electricity theft in SA, authorities have to devote more resources to remove illegal connections that are increasing price burdens on legal customers which have been observed in many communities and informal settlement in developing countries, such Gauteng municipality in SA Mumbai municipality as well as India. (Lemaire & Kerr, 2016:7).

2.8 ELECTRICITY THEFT IN KWAZULU-NATAL

According to Smith (2004:2075), electricity theft consists of legal consumers who do not pay for their electricity, and illegal connections into power lines or from neighbours. Another form of electricity theft is related to the stealing of cables and copper for resale.

2.9 CAUSES OF ELECTRICITY THEFT IN SOUTH AFRICA

According to Operation Khanyisa (2016:33); Chris (2008:8) and The Mercury (2016:7), people involved in illegal electricity connections argue that it is necessary for their daily lives and will continue until government provides legal access. The population stealing electricity further argues that only small amounts of electricity are captured, as the current is simply passing by; therefore, such theft cannot have a huge impact on the country (Smith, 2004:2076). Example of Sanathan informal settlements in Umzinto South Coast where tons of illegal connections were disconnected and two of the residents of which one has lived there for more than 15 years and the other one has been there since 1994 admitted that they illegal connected from the nearest transformer in Umzinto Secondary School and a local clinic because Umdoni Municipality failed to provide electricity services (Bala, The Mercury 2016:4).

Without the provision of electricity services, people in informal settlements can be subjected to danger in the form of shack fires caused by candle or paraffin use. One such example of shack fires took place in July Sea Cow Lake. The fire destroyed about 40 shacks because of illegal connections where Mayor Nxumalo said the electricity and cable theft must be stopped not only because of the effect it has on the lives of law-abiding citizens, but because of the adverse effects on the economy and jobs creation (Nxumalo, Daily News 2016:10). Many residents in informal settlements have claimed to have attempted to visit their local municipalities and request electricity provision several times to no avail, thereby leaving residents with few options outside of acquiring electricity illegally (Chris, 2008:8).

In the same study by Chris (2008:8) noted earlier in this section, various causes of socially motivated electricity theft have been identified. The author argues that people steal electricity with the aim of protecting their children, as they perceive a lack of electricity to indicate that they are still being colonised. According to Lauren (2014:147), local municipalities have argued that electricity theft is largely related to various social problems. First is the issue of poverty, with people who live in poverty being marginalised from basic service delivery. To justify intervention by development agencies and governments to improve electricity access and reliability, it is desirable to know that this intervention would have a causal effect on economic growth, poverty and other development indicators of interest (David, Stern, Burke, Stephan & Bruns, 2016:2). People who are impoverished cannot afford some of their daily needs and, therefore, some may opt to steal electricity cables for resale purposes in exchange for money so sustain their lives. People who are impoverished or suffer from unemployment often cannot afford basic necessities and may, therefore, turn to theft, including cable theft, as a means of gaining income. Second, some poor households tamper with their meters so that they read very low rates or remain at the same rate so that they do not have to pay for electricity at the end of the month as they cannot afford the bill. The migration of people into cities escalates the situation since it leads to more informal settlements that are not included into urban development, making it difficult for municipalities to quickly supply electricity to the growing areas (Lauren, 2014:145).

According to Electricity crisis in SA by Nonku (2015:128), the impacts of electricity theft are:

- Negative impact on economic growth
- Unemployment and job creation lose;

- Potential tax revenue losses;
- Decline on foreign investment;
- Possible job losses and possible companies closing down;

2.10 PREVENTION MEASURES IN RESPONSE TO ELECTRICITY THEFT

Nearly 1.3 billion people lack access to electricity worldwide, with residents of 10 developing countries accounting for two-thirds of those without electricity because, without electricity education, health care and other critical service decline. An example is that of Kenya as only 25% of health facilities have a reliable energy supply and experience regular blackout. In line with that, Bala (The Mercury 2016:4) stated that there could be a community member going to the clinic but being unable to receive oxygen because there was no electricity since the residents of Sanantha informal settlement in Umzinto were connected illegally through Umzinto Secondary and the nearest clinic. The World Bank estimates that 2-3% of GD is wiped out in Africa every year because of Sustainable Energy for all which was launch by UN secretary to make sustainable energy worldwide a reality by 2030 (The Mail & Guardian, 2013). Municipality resolve in June to spend R31 million electrifying informal settlements in seven areas strung out across eThekweni include Tongaat, Verulam Mayville Kennedy Road, Reservoir Hills, Kloof and other parts of Durban Central Business District to reduce electricity loses (The Mercury, 2016:6). Curbing electricity theft, infrastructure theft and vandalism will ensure safety of communities, improve the performance of electricity ensuring uninterrupted electricity supply for the benefit of individuals, businesses and the country (Daily News, 2018:7). Eskom installed circuit brakes that switch off when load riches dangerous level which prevent transformer from exploding (Rakua, Daily News 2018:7).

In hoping to eliminate the challenges related to electricity theft, the city continuously conducts multidisciplinary operations with law enforcement to remove electricity illegal connections (News24, 2016:6). According to Abduzatees (2012:279), education programmes were also developed to promote the use of energy-saving appliances characterised by a star logo; the goal of which was to teach the public about energy efficacy. In order to bridge this gap, the government introduced inclined backlog tariffs. The policy of these inclined tariffs permitted poor households to be charged at a lower rate with hope of reducing the desire and necessity of stealing electricity by making it more affordable (Abduzatees, 2012:279). In 2011 the Department of Energy in

recognising the Free Basic Electricity Allowance Policy, which allows the poorest consumers to access a lifeline electricity consumption tariff-free, had failed in improving access in the country's informal settlements (Lemaire & Kerr 2016:11).

According to Bala (Business Day, 2016) Operation Khanyisa would target informal settlements, townships, suburbs and even industrial areas in KZN and other provinces to fight electricity theft. According to Clarke (EE Publishers, 2016:1420), removing of wires has proven to be a fruitless exercise and only result in protest, violence and destruction of property, The only option left is to provide formal electricity, but that will not stop electricity theft either, because electricity theft is committed in many forms and done for many reasons whether poor, disparate or greedy there is no justification for breaking the law.

Eskom introduced measures such as Operation Khanyisa, which is a South African initiative against the criminal act of electricity theft that came into existence in October 2010. According to Operation Khanyisa (2012:25), the campaign's goal was to respond proactively to electricity theft in South Africa. Operation Khanyisa assisted authorities in ensuring that there is a stable and effective supply of electricity in order for companies to recover their billions-worth of lost revenues due to energy loss. The highest revenue recovered was from bigger power users such as companies operating in the industries and agricultural sectors. These recoveries were followed by revenues gained through fines issued from meter tempering.

Due to the difficulties that municipalities often face in providing electricity services to formal communities in developing cities, the rate of electricity theft among residents of these communities are often high as of 2011 it was estimated that 40% of the Sub-Saharan African urban population live in informal settlement and of these informal settlement 50% make use of an illegal electricity connection (Lemaire & Kerr, 2016:5)

Vinay (2017) argues that the most crucial step in dealing with the eradication of electricity theft is ensuring that stakeholders are rich in knowledge regarding the problems of theft. Therefore, proper electricity theft analysis that goes beyond pointing out individual or managerial preventive measures and tries to look at factors causing theft from all angles should be undertaken. Additionally, the reduction of energy losses due to theft can be achieved through the upgrading of already existing power lines and transformers.

In hoping to reduce electricity theft, from a review of the literature, it is clear that electricity theft can be reduced by applying technical solutions, such as tamper-proof meters, and managerial

methods, such as improved inspection and monitoring (Antmann, 2009:81; Smith, 2004:2076). Several successful preventative measures have been put in place to reduce electricity theft in countries like Japan, and areas of Western Europe and North America. For example, some of these areas have implemented Mobile Remote Check Meters to detect electricity theft on a small scale via the use of 'low voltage' electricity run through the metres (Doorduyn, Mouton, Herman, & Beukes, 2004:54). This kind of machine is able to pick up energy being consumed illegally and, hence, offers authorities greater ability to combat theft. Similarly, the use of a Vigilant Energy Metering System (VEMS) has also met with some success in other parts of the world. This system is an "advanced energy metering system that can fight against electricity theft. It has the ability to collect, transfer and process data between other energy meters, local station and base station. It also identifies probable locations of theft and helps the utility companies to control theft". The significance of the VEMS system is that it is able to locate both domestic and commercial sources of electricity theft, as it locates abnormal patterns of electricity consumption from both the meter and the station from which the electricity is distributed.

Another option that is available is the power line impedance technique, which tracks down the exact place/house that is stealing electricity. The detection is done through a comparison between genuine sources, that is, legal consumers and the source that is stealing electricity, and has led to improvement in the reduction of electricity theft to more manageable levels (Smith, 2004:2076). Other programmes, methods, and technical solutions that are available and which have met with some success within the South African context include: A policy introduced by Government in 2003 to provide free basic electricity (FBE). FBE recognises electricity as a basic need and seeks to ensure that electricity is accessible and affordable for all, especially the poor (Eskom, 2016). This policy also provides 50kWh of free electricity per month to poor families to cater for their domestic energy needs such as water heating, lighting, ironing, and entertainment (Eskom, 2016:4). FBE is supported by the National Energy Act 34 of 2008, which states in Section 2 that the mandate of the government is to facilitate and ensure the accessibility of energy to improve citizen's quality of life. Section 6 of the same Act mandates the Minister to develop and annually release an Integrated Energy Plan (IEP) that deals with issues involving supply, storage of, and demand for, energy in a way that accounts for economically available energy resources, universal accessibility, and free basic electricity as a means to limit electricity theft. In South Africa the Installation of Prepayment Meters (Split), Meter Management and Operation System, Digital Pen and Paper Technology, Protective Structures, and the Audit of Business Customers have

contributed in the success of eThekweni Electricity and, as a result, the municipality has managed to keep the total losses due to electricity theft to below 6%, (Nkwanyana, 2017:115).

2.11 CONCLUSION

Electricity theft world- wide is still a major problem that has a negative effect both on the economy, and on human lives. The literature shows that the rate of reporting such cases are declining since the culprits are benefiting from this act and also believe that they will not be caught, and they do not treat this crime as any other punishable crime above the law. This act of theft leads to huge economic and social losses for the affected country. The most common forms of electricity theft include fraud, where a consumer manipulates meters to read lower usage and results in cheaper electricity bills; billing irregularities committed by utility employees; and the illegal tapping of electricity into power lines. In South Africa, electricity theft continues to take place despite Government's efforts to reduce instances of the crime – such as its *izinyoka* portrayal in the media to identify perpetrators. Furthermore, the stealing of electricity in such places is further compounded by the government not meeting the demands of rapid urbanisation. The following chapter presents theoretical framework, the theories that underpinned the study.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

This chapter presents the three theories that underpinned the study, namely: The Social Disorganisation Theory (SDT) by Shaw and McKay (1942); the Rational Choice Theory (RCT) by Beccaria (1767); and the Economic Theory by the Chicago School of Criminology (1942). Specifically, this chapter highlights each theory's relevance to this study. The SDT and Economic Theory aided in the investigation of the factors that lead people to commit electricity theft while the RCT assisted in understanding the manner in which people from the Staram informal settlement make their choices in achieving their own desired interests of stealing electricity.

According to, Brondizio, Leemans, and Solecki (2014:237) cited in Dickson, Emand, Joe, 2018:483) theoretical framework is the specific theory or theories about aspects of human endeavor that can be useful to the study of events. Theoretical framework consists of theoretical principles, constructs, concepts, and tenants of a theory (Grant & Osanloo, 2014:52 cited in Dickson, et al: 2018:483). It is there to provides the structure in showing how a researcher defines his/her study philosophically, epistemologically, methodology and analytically. Ravitch and Carl (2016:85) concur that the theoretical framework assist researchers in situating and contextualizing formal theories into their studies as a guide.

3.2 SOCIAL DISORGANISATION THEORY

The theory related to social disorganisation was first introduced in 1942 by Shaw and McKay. Bartollas (2003:73) and Robert, Sampson and Byron (1989:118) both assert that SDT is based on three variables: poverty (low economic status), residential mobility, and racial (ethnic) heterogeneity. These factors can lead to the disruption of community social organisation, which results in various crimes and delinquency (Robert et al., 1989:118). Jones (2001:752) further argues that poor communities result in social disorganisation because they do not have adequate resources to deal with their problems. These elements are discussed further in relation to this study. However, only two elements namely: low economic status (used interchangeably with poverty) and residential mobility have been applied to this specific study.

The SDT suggest that a person's residential location is more significant than a person's characteristics when predicting criminal activity within disadvantaged urban neighbourhoods. Therefore, location matters when it comes to criminality. The theory also explains why individuals fail to obey societal rules, and that social problems are deemed the major cause of disorganisation. (Bond, 2015:47)

There are many different disorganisation theorists. For example, Cooley (1909:87) argues that disorganisation is brought about by the disintegration of tradition caused by urbanisation which consists of two or more social groups. When standards agreed upon in society are non-existent, individuals are less likely to achieve their goals. Ogburn (1922:34) further notes that social disorganisation is created by cultural changes that are unevenly distributed in society. This author referred to as this notion as 'culture lag' (Ogburn, 1922:34). Ogburn (1922:35) also states that in culture, all parts that exist are interdependent to each other, therefore, when certain different parts change, the other is more likely to be completely out of phase, which creates social disorder.

In continuation of the aforementioned aspects, Thomas and Znieckiel (1927:28) argue that social disorganisation causes the breakdown of rules that influence or govern individuals in society. Their argument is mostly based on the occurrence of culture conflict, which becomes generational (Thomas and Znieckiel, 1927:28). According to these authors, disorganisation in society is largely caused by the absence of rules, or too many rules to which individuals are subjected (Thomas and Znieckiel, 1927:30). Either extreme can then lead individuals to an inability to define their own rules. Thomas and Znieckiel (1927:30) further argue that in some cases the rules are there, but they are not made very clear, while at other times they are clear, but they conflict with one another.

Social disorganisation is, thus, deemed to be the failure of rules that are supposed to govern a society. Theorists argue that a society that is disorganised is characterised by normlessness, breakdown, and conflicts in cultures (Kurbrin and Wo 2016:122; Thomas & Znieckiel, 1927:31). Where there is normlessness, there are no rules in place guiding individuals on how to act regarding electricity theft in South African society, the departments that handle the provision of services in urban areas are not catering for all the demands of the growing general population; this then results in the increase of informal settlements. So in these informal settlements, people often lack rules on how to survive without electricity, since they have been socialised within a modern society that mostly depends on electricity. As a result, disorganisation takes place through electricity theft. Furthermore, while some individuals in informal settlements argue that they would pay their correct electricity bills, others are extracting electricity freely. This leads to most people becoming

disorganised through offering bribes to power supply employees to reduce their meter readings which is defined as electricity fraud a dishonest or illegal use of electricity equipment or service with the intention to avoid billing charge (Nagi et al., 2008:6).

According to Smith (2004:2074), cases of electricity theft arise because service delivery that promises electricity supply is not delivered. To illustrate this point society is largely produced by rules that are available and can guide individuals failing to obey these rules when they do not yield the desired outcomes. According to Joseph (2010:505), politicians make promises during campaign periods regarding the ensuring of electricity provision within a certain period once they are elected; yet, after individuals in society have voted for the candidate there is still no provision of electricity, therefore society breaks down and turns to illegal connections. Such a breakdown often results from individuals being punished by the rules of politicians despite their attempts at obeying the voting rules and being willing to be under political leadership for that elected time frame. As a result, individuals can feel betrayed, leading them to undermine the law.

This means that electricity theft is one aspect of social disorganisation. In this study, electricity theft is considered as one of the causes for social disorganisation because its nature is to break the public laws governing access to electricity.

In the SDT, Shaw and McKay (1942:40) present four specific assumptions as an explanation of delinquency:

- The collapse of community-based controls and people living in disadvantaged neighbourhoods responding naturally to their environmental conditions;
- The rapid growth of immigration in urban disadvantaged neighbourhoods;
- Businesses located close to disadvantaged neighbourhoods that influence the “ecological approach” of competition and dominance; and
- Disadvantaged urban neighbourhoods leading to the development of criminal values that replace normal society values.

Below is demonstration of social disorganisation leading causes of electricity theft, see diagram3.3.

3.3 FACTORS RELATED TO SOCIAL DISORGANISATION

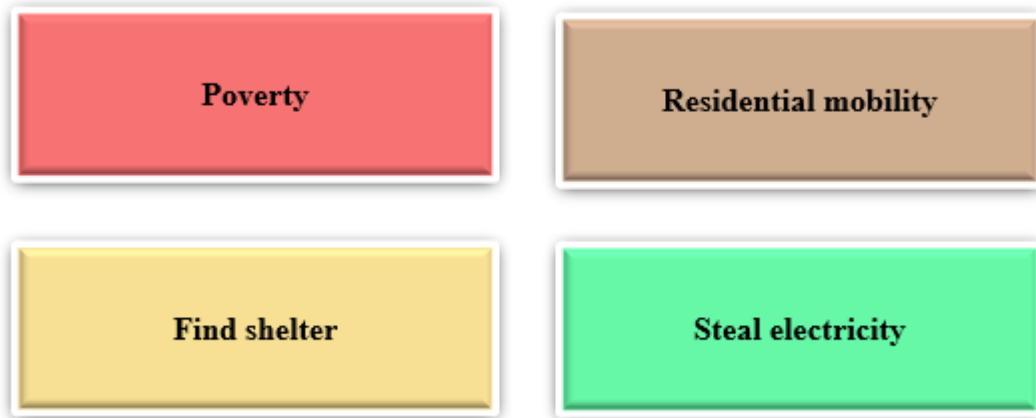


Figure 3.1 Leading factors of social disorganisation/electricity theft

3.3.1 Poverty

Poor communities result in social disorganisation because they do not have adequate resources to deal with their problems Jones (2001:129). Therefore, the element of poverty is essential in this study because it has been established as one of the leading causes for people to commit electricity theft in informal settlements such as Staram. Marcus Aurelius once noted that “poverty is a mother of crime” (cited in Shaw and McKay, 1942:41). This implies that when people live in poverty and their economic standings are too low to meet their needs, and when they are subjected to ever-increasing costs of living, they are more likely to commit crimes, such as stealing electricity, in order to fulfil their needs (Brants & Sanders, 2010).

3.3.2 Residential mobility

Residential mobility is a disequilibrium model where a decision to move occurs when the current arrangements become suboptimal, many pull, and push factors affect a household’s decision to relocate such as employment or location less tenable or satisfactory. However low-income households may make frequent moves because of economic or social distress (Coulton, Theodos & Turner, 2012). According to Poni (2008:118), in the South African context, this means that individuals often move to the cities and build shacks since they cannot afford high rents or to buy a house. These shacks require electricity, so they opt to connect electricity illegally while they are either waiting for Reconstruction and Development Programme (RDP) houses or searching for jobs. To illustrate this point, Poni (2008:118) states that people move from rural areas to urban areas to seek for job opportunities. Often, they first squat with friends or relatives, then, after they

have got a job, they want to be independent by owning a shelter, as a result they will build shacks as they see these structures as perhaps the best gateway option towards getting a proper house with proper facilities.

The first thing that migrants need to survive is water and electricity. Since they are in the city, they have no other alternatives like those present in rural areas, for example there are no rivers to get water and no alternative fuel sources, which leads them to stealing such services as electricity. This process is in agreement with the fourth assumption of the SDT by Shaw and Kay (1942:227), which states that disadvantaged urban neighbourhoods lead to the development of criminal values – in the context of informal settlements; this pertains to acts such as stealing electricity – that replace normal societal values – for example, those of paying for electricity usage. Most of the people that reside in Staram are not originally from there; they came from different places. They live there to achieve their goals and to get better a life. This study aims to study this population's relation to electricity theft as underlined by the SDT. According to Theodore, McAllister, Kaiser and Butler (2008), the study indicated that the groups that are affected by crime and violence are the poor and black and are precisely escape the problem through residential relocation because the crime problem does not seem to result in suburbs.

3.4 RATIONAL CHOICE THEORY

The RCT originated during the 18th century through the work of economists and was later adopted by the criminologist Cesare Beccaria in 1767. The theory works on the assumption that every individual in society is trying to actively maximise their available situation so as to make it helpful to themselves. Furthermore, it highlights that the decisions that individuals make assist with the provision of satisfaction and benefits in relation to their available choices for their self-interests. Scott (2000:65) agrees with Baccaria (1967) by stating that people calculate the likely costs and benefits of any action before deciding what to do. Baccaria (1967) goes on to state that all people in society make decisions based on rational thinking, even when they choose something for pleasure or for profit. In line with this theory, it can be assumed that Staram residents have a free will to engage in criminal behaviour or not, because of their socio-economic conditions. Thus, based on the RCT, it can be asserted that people in this area engage in electricity theft in order to accomplish their self-interests. According to Siegel and McComick (2000:18), the RCT is fundamentally based on the argument that everyone has the right to freely choose their manner of behaviour, and that behaviour is normally motivated by the goal of achieving pleasure and reducing pain, the act that is chosen is done through an analysis of choices that could produce

desired pleasure. Relating this theory to electricity theft, then, it can be surmised that individuals make the choice of stealing electricity so that they can be able to meet their day-to-day needs such as cooking, ironing, and having access to light. Therefore, this particular theory was chosen for this study as its design provides researchers with a lens through which to focus on an offender's decision for committing a crime (Siegel & McComick, 2000:18).

The main argument in the RCT is that individuals are rational beings whose behaviour is largely influenced or controlled by the fear of being punished. People are motivated to obtain pleasure and avoid pain so that crime can be deterred by increasing the certainty and amount of legal punishment for committing it (Banks, 2015). As such, in seeking to limit criminal behaviour, Situational Action theory argue that most people abide by the law not because they fear the consequences but because they do not perceive crime as an 'action alternative' (Wikstrom, Tseloni & Karlis 2011:73, Siegel & McComick, 2000:21). The theory argues that individuals are more likely to commit acts of criminal behaviour if the rewards they get from committing such acts are greater than related costs. Within this study's context, it could be argued that individuals who steal electricity often live in poverty, making them unable to pay for legal electricity, and more prone towards theft as the benefits outweigh the costs (Smith, 2004:2068). So, the individuals are often left with no other option than to commit electricity theft since they benefit more from electricity as part of their day-to-day requirements than the costs involved in not having electricity at all.

Like any other social crime or illegal activity, perpetrators of electricity theft have free will or the choice to engage in it or not. Therefore, it is important to understand the motives and factors influencing electricity theft in informal settlements. While the RCT promotes that individuals are rational beings whose actions are influenced or controlled by the fear of being punished (Siegel and McComick, 2000:21), it is worth understanding how people in informal settlements like Staram overcome the fear of breaking the law and choose to steal electricity instead. This study sheds more light on this dynamic.

3.5 ECONOMIC THEORY

The Economic Theory explains crimes, actions, and behaviours that calculate the gain and benefits accrued from participating in a particular task (Lutya & Lanier, 2012:221; Witt & Witt, 2000:48). According to Becker and Stigler (1968;172), the Economic Theory argues that criminal acts are committed in instances where the amount of gain from that crime is greater than the expected costs. The theory is also concerned with how society utilises its resources that are scarce. In this study,

the Economic Theory was used to better understand the practice where informal settlement residents steal electricity. From this theory, the study sought to determine whether residents may decide to engage in electricity theft for personal gain after having calculated the benefits of stealing electricity in relation to the losses they may experience. Shepherd and Rubin (2006:68) suggest that the gains and losses involved in any given economic model are usually meant to represent all forms of benefits and costs that influence people's decisions. Vold and Bernard (1986) agree with Becker (1967:172) in indicating that the Economic Theory is based on the assumption that people choose to commit crimes.

Operation Khanyisa (2010:42) states that electricity theft has a negative impact not only on humans but also on economy growth. According to Joseph (2010:507), there is nothing, including the present electricity prices that can decrease instabilities electrical supply given the level of corruption and electricity theft. However, Operation Khanyisa (2010:42) notes that economic factors such as the amount of income that a consumer receives in relation to the electricity prices are closely linked to electricity theft.

In most informal settlements, electricity is very scarce (Smith, 2004:2071). This scarcity earns informal settlements the characterisation of being 'hot spots' for electricity theft (Smith, 2004:2071). This criminal act is primarily conducted through NTLs consisting of tampering with meters so that they read lower charges or no charge at all. According to Becker and Stigler (1964:174), the Economic Theory uses the costs that result from crime (such as stealing electricity). These crimes tend to increase in relation to product or service prices and/or surveillance systems (Becker and Stigler, 1964:174). From the theorists' view, individuals can, thus, be stopped from committing crimes through the giving or adjusting of fines (Becker and Stigler, 1964:174).

The Economic Theory also points out that criminal activities (such as electricity theft) often occur in relation to countries' government hierarchal structures. For example, if individuals are situated in a location where they are deprived of resources that they mostly need, or if requisite resources are scarce, they are more likely to look for alternative ways of utilising those scarce resources, including opting for criminality. As Staram residents are lacking human basic services like electricity, they look for an alternative to access electricity which is connecting it illegally to meet their daily needs. From the information presented in this section, it is clear that the Economic Theory applies to the current study since the criminal act of stealing electricity that occurs in Staram is likely motivated by financial inactivity and a lack of access to resources. The income

that individuals from Staram earn, therefore, likely plays a vital role in motivating them to commit electricity theft. Indeed, the literature review presented in Chapter 2 highlighted that most electricity theft takes place in informal settlements where people live under poor conditions and are often unemployed. As a result, informal residents usually cannot afford to pay for electricity, and criminal acts become a cycle with stakeholders tampering with meters or offering bribes. This study, therefore, aims to determine to what extent economic factors, cost-benefit analyses, and resource access, as per the Economic Theory, influence Staram residents' engagement with electricity theft.

3.6 CONCLUSION

This chapter provided three theories that were used in the study to assist in explaining a particular phenomenon. Therefore, a theoretical framework is used to support facts or assumptions within a study relating to the manner in which certain things happen in terms of electricity theft, trying to understand the motives behind this criminal act. For the purposes of this study, three different theories were chosen as part of the framework. By employing these related but contrasting theories, the study was able to better provide a holistic understanding of the issues surrounding electricity theft in Staram. The following chapter presents the research methodology adopted in this study.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter focuses on the research methodology adopted in this study to achieve the study's aim and objectives. The study focused on electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN. This chapter is comprised of the following sections: the research design, study approach, location of the study, sampling, data collection, data analysis, methods to ensure trustworthiness of the study, ethical considerations, and a summary.

4.2 RESEARCH DESIGN

According to Steyn (2013:17), the research design is based on the purpose of the research, the paradigm chosen, the context in which the research is conducted, and the research techniques used to collect data. The following discussion pertains to the design that outlined this particular study

4.2.1 Exploratory design

Exploratory design that the study used is defined as a valuable method to find out what is happening within a particular area of study, seek insights, ask questions, and assess phenomena in a new light. Exploratory is considered as the primary stage of research and the aim of this research is to attain new understandings into a phenomenon. This research is one with an intention for formulating a problem for more precise investigation (Bhattacharya, 2009:47). This design approach is applicable when a researcher has an idea of or has already observed something and seeks to understand more about it (Bhattacharya, 2009:47). In order to achieve the goals and objectives of the current study, and exploratory design was chosen to obtain more information regarding the causes of electricity theft in the Staram informal settlement, Tongaat.

4.3 STUDY APPROACH

Due to the chosen exploratory design, the study was qualitative in nature. Qualitative research “involves an interpretive, natural approach to the subject matter that it attempts to make sense of, or to interpret phenomena in terms of the meaning people bring to them” (Denzin and Lincoln, 2003:15). Royse (1999:108) alleges that qualitative research allows field researchers to know what to ask and can change the style of questioning depending on the selected participants. It is,

therefore, a naturalistic research approach. This approach permits a principal investigator to interpret the findings of the study based on the reactions and voices of selected participants and, as a result, provides a researcher with advanced knowledge of a population's worldview on the studied subject matter. A qualitative approach can, thus, make research easier, especially in under-researched areas (Creswell, 2003:51), as it allows for the exploration of the meaning attached to social problems (Creswell, 2014:49). According to Baumgartner and Strong (1998:79), the use of a qualitative method facilitates a more in-depth understanding of factors that would be difficult to get in a quantitative survey alone. Subjective factors such as participants' opinions, attitudes, personalities, emotions, motivations, interests, personal problems, moods, drives, and frustration are relatively complex; hence, they are often more difficult to capture quantitatively with variables that can be empirically verified, which makes a qualitative a more viable option for studying such factors.

Based on this understanding of the value of qualitative research, this particular approach was used in this study. The use of a qualitative method was relevant for exploring the causes, effects, and current preventative measures employed for curbing electricity theft in Tongaat, as per participants' experiences and perceptions. By employing this approach, the researcher was also able to evaluate the challenges of responding to electricity theft and propose ways in which electricity theft can be addressed within informal settlements in Tongaat, as well as across the country in general.

4.4 LOCATION OF THE STUDY

The researcher conducted the study in the Staram informal settlement within the area of Hambanathi in Tongaat (see Figure 4.1). Tongaat is a small town in KZN, South Africa, and was established in 1945. It is located about 37 km north of Durban and 28 km south of Stanger. This town is the oldest Indian community in South Africa and was where the first indentured Indian labourers settled in 1860 to work in sugarcane plantations. Staram is an informal settlement based on the outskirts of this town. It falls under Ward 61 – located in the northern region of the eThekweni Local Municipality. There are more than 3000 households within the Staram informal settlement. Staram used to be a multi-racial community consisting of Black people, Coloured and Indian people. However, currently, Black people are the dominant racial group in the settlement (Pheonix Sun, 2018). Staram is divided into three sections: Endliniyomlilo, Harry, and Eziweni.

Eziweni is located on land that was formerly used to prepare Zulu beer. Residents often choose to stay in Staram because it is close to industrial areas and, consequently, job opportunities.

The need to study the community of Staram in relation to electricity theft emerged from the reality that the informal settlement has been in existence for decades, but the municipality has not taken any initiative to deliver electricity services to its residents. This on its own motivates behaviour to acquire electricity illegally, thus the motive to undertake this study.



Figure 4.1 Location of Hambanathi – consisting of Ward 61, Harry’s Farm, the Firehouse and the Staram informal settlements in Tongaat

Source: Google Map, 2019: n.p.

4.5 SAMPLING

Bezuidenhout (2011:40) defines sampling as the selection process whereby a smaller part of the larger group is selected for research purposes. Sampling is the process of selecting units from a population of interest so that by studying the sample one may fairly generalize results back to the population from which they were chosen (Trochim, 2006:87; Venter & Strydom, 2002:92). Qualitative researchers regard the sampling process as the ‘selection of participants’ (Polkinghorne, 2005:32). Dworkin (2012:4) asserts that, unlike in quantitative research, a qualitative sample size is usually small because qualitative research methods are usually more concerned with gathering an in-depth understanding of a phenomenon rather than statistical

representations thereof. Due to this current study being qualitative in nature, a large number of participants was not required. Thus, this study consisted of 15 participants chosen on the basis that sufficient in-depth data could be elicited from this sample size so as to achieve all the objectives of the study and generate new findings that would contribute more knowledge related to electricity theft. The participants were chosen based on the following criteria:

- They were residents in the area of study;
- They were victims of electricity theft; and/or
- They were perpetrators of electricity theft.

The researcher selected five participants from each of the three sections (that is, Harry, Eziweni, and Endliniyomlilo) using convenience sampling, which is a non-probability sampling method. All the 15 participants responded to the questions and none withdrew from the study during the interview process. With convenience sampling, a researcher intentionally looks for individuals with first-hand knowledge or experience about the topic under investigation. According to Etikan, Musa, and Alkassim (2016:2), "...convenience sampling is a sampling method where members of the target population that meet certain practical criteria, such as easy accessibility geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study". This sampling technique was deemed suitable for this study because, in convenience sampling, the chances of selecting a particular individual are known and a researcher already knows the population size or members of the population.

In terms of recruiting the participants for this study, the committee member from Staram who was assisting with recruitment was provided with details as to what was needed in order to select participants for this study. The researcher was then accompanied by the committee member who knew the community well and could identify criteria-matching participants. In each instance, the researcher explained the nature of the study and potential participants were provided with full details regarding their involvement in the research. Participants were also told that the information received from them was to be treated with confidentiality and their names would remain anonymous. This ensured that people who participated in the research did so voluntarily.

4.6 DATA COLLECTION

The concept ‘data collection’ is defined as the way in which a researcher goes about collecting data for a particular study (Alson and Bowles, 2003:66). This approach to data collection was also chosen because of its cost-efficiency and the ability to collect large quantities of data in a short space of time. While the data collection method may vary according to the type of information a researcher might be seeking, there is no right or wrong method for any given situation or methodology. For this study, open-ended ‘semi-structured’ interviews were employed for data collection. Both Gordon (2015:31) and Dentzeker and Hunter (2012:76) argue that a researcher can go beyond the responses based on an interview guide in order to gain a broader understanding of the answers that are provided to the posed questions. Minimal deviation from the guide encourages deeper probing that still falls in line with the overall interview. Due to the semi-structured nature of the study’s interview guide, some questions were closed-ended (that is, “yes” or “no”) and others were open-ended. The open-ended questions ensured that the selected participants were at ease as they were allowed to express themselves in their own words regarding electricity theft in Tongaat (Hofstee, 2006:133).

4.6.1 Interviews

According to Sylvester (2010:33), “semi-structured interviews allow the researcher to ask questions about feelings, emotions and thoughts as well as past behaviour of an individual and how individuals had organised their live and their meanings, they had given it.” . De Vos Strydom, Fouche, and Delpot (2011:116) add that semi-structured interviews are “the structure that is allowed more initiative and more ability to respond to the perceptions and priorities of the responded.” As such, the topic guide essentially serves as a memory aid and ensures that all the important aspects related to a study are explored. In conducting this study, semi-structured, face-to-face, interviews were used

4.6.2 The interview process

A ward councillor introduced the researcher to a health and safety committee member whose role was to identify hazards within and the safety of the Staram community. The committee member is an expert in his community, and he helped the researcher in identifying the participants and he was also interviewed. For example, the member was to identify if residents were injured or died due to electricity theft. His role was also to ensure that justice is served to those residents, do a follow up

on residents, and provide feedback to residents regarding what was previously raised or discussed in the meetings.

The interviews were done in February and March 2017, depending on the availability of the committee member to accompany the researcher to participants. The presence of the committee member helped to create a safe and conducive atmosphere for participants and enabled them to share their experiences and feelings easily, but the committee member was excluded in the interview session, only the researcher and participant were present due to confidentiality purposes.

On the arranged date, before interviewing the respective participants, the researcher would start by explaining the motivation of the study to the participating interviewee. This explanation was then followed by verbal informed consent by the participant indicating their willingness to participate in the study and allow the use of a recorder. Interviews scheduled on thundering or raining days were postponed because the interviews were done outside, with participants sitting mostly under trees, on benches, on Zulu mate, or on chairs because most shacks were single rooms, tiny, and very hot inside. These postponed interviews were then conducted on more accommodating weather, that is, sunny days. All 15 participant interviews were conducted face-to-face. The face-to-face interviews in this study took approximately 45 to 60 minutes per session.

As noted previously, the researcher used an interview guide as the data collection instrument. According to Bernard (2006:212), an interview guide "...is a written list of questions and topics that needs to be covered in a particular order". Questions that were not included in the guide were also asked, as and when the interviewer noticed interviewee comments that required further elucidation. The researcher developed the interview guide after conducting a thorough literature search. It comprised questions that were used during the interview process. The duration of the interview was between 45 and 60 minutes, dependent on participants' answers. The researcher spent an entire day during office hours (from 09h00 to 14h30) to conduct the interviews because most of the participants were either unemployed or working on shifts.

4.7 DATA ANALYSIS

This section describes the form of data analysis used in this study. The procedure of analysing qualitative data is said to be a "...process of resolving data into its constituent components, to reveal its characteristic elements and structure" (Dey, 1993:31). Various methods can be utilised to achieve such an outcome; for the purposes of this study, an approach known as 'thematic data analysis' was employed.

4.7.1 Thematic analysis

Thematic analysis was used to analyse the collected data. It is a method used for “identifying, analysing, and reporting patterns or themes within the data” (Braun & Clarke, 2006:74). A ‘theme’ can be described as a subject that “...captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data. Following is a description of a particular method of thematic analysis consisting of a six-step process developed by Braun and Clark (2006:76) that was followed in this study:

After the data was collected, the researcher familiarised herself with the data by listening to all the audio recordings and reading through all the transcripts from the audio-recorded responses. This allowed the researcher to identify key emerging themes as well as find the rationale behind participants’ various views and perceptions about electricity theft. Each response was interpreted to analyse and understand the true meaning of certain views expressed throughout the interviews.

The researcher then read the transcripts to generate initial codes and search for themes by going back and forth and reviewing themes. This was done to check if all the themes were relevant to the posed research questions. A *code* is “...the most basic segment of raw data that can be assessed in a meaningful way regarding the phenomenon” (Boyatzis, 1998:63). Relatedly, a *theme* is “...a pattern identified in the data, at minimum it organises and describes (a researcher’s) observations” (Braun and Clarke, 2006:79). Once the themes were coded, the researcher looked closely at the coded themes to see which parts fitted together by grouping them and creating sub-themes where possible. The emerging findings were linked with the literature, theoretical framework, and objective of the study

4.8 METHODS TO ENSURE TRUSTWORTHINESS OF THE STUDY

In terms of the validity and reliability of data, Maree (1995:58) states that the criteria for validity include confidentiality, honesty and responsibility. These criteria are necessary for validating the responses of participants, that is, the completeness of responses are measured against these criteria. According to Guba (1981:222) external validity is achieved through a detailed description of the research process that allows a reader to see if the results can be transferred to a different setting. In order to enable others wanting to apply the findings of the study to their own research, descriptions of the experiences and identity development of the participants, as well as the definitive expositions of the researcher, has to be provided.

4.8.1 Reliability

According to Miles and Huberman (1994), reliability is used to evaluate the stability of observations by the multiple uses of the same instrument, as required. Each participant was asked the same questions, using the aforementioned interview guide. The researcher ensured that if another researcher would subject the findings to similar circumstances and apply the same qualitative methods, the same results would be obtained.

According to Babbie and Mouton (2011:248), the basic issue of trustworthiness in research is that a study cannot be transferable unless it is credible, and it cannot be deemed credible unless it is dependable. The following four elements to ensure the trustworthiness of the adopted research approach were therefore adhered to:

4.8.2 Credibility

Trochim (2006:92) mentions that credibility is the criteria involved in establishing that findings from qualitative research are believable from the perspective of participants in the research.

For this current study, the researcher improved credibility by spending time with the participants in natural settings to better understand them and gain insights into their perceptions. The researcher remained in the participants' field and continued to ask relevant questions until data saturation had occurred, and constantly pursued different interpretations of the data. To enhance the credibility of this study, the researcher also tentatively analysed the data, relevant literature and documents, and drew from her own research experiences to separate relevant from irrelevant data.

4.8.3 Transferability

Transferability refers to the degree to which the results of qualitative research can be generalised or transferred to other contexts or settings (Trochim, 2006:92). According to Babbie and Mouton (2001:277), transferability refers to "the extent to which the findings can be applied in other contexts or with other participants". The researcher ensured a thick description of the information that acknowledged the participants as required. The time of data collection, as well as the context of the data, was clearly stipulated.

4.8.4 Dependability

Babbie and Mouton (2011:278) hold the view that dependability in an enquiry means that "...[the enquiry] must provide its audience with evidence that, if this study were to be repeated with the

same or similar participants in the same or a similar context, the findings would be the same”. In this study, the researcher recorded the participants’ answers on a voice recorder. The voice data were then transcribed. This ensured that should future researchers conduct similar studies using a similar interview guide; the same findings would be obtained in different settings with the same people at different times.

The researcher also conducted semi-structured interviews with the participants and posed mostly open-ended questions that could be answered openly. Participants were asked the same interview questions to address the study objectives and research questions. The researcher also ensured the confidentiality of participants and guaranteed that their interviews were conducted in privacy. The researcher was also cautious in wording the interview questions and did not make deductions or suggestions to direct the viewpoint and responses of the study participants.

4.8.5 Confirmability

Du Plooy-Cilliers, Davis, and Bezuidenhout (2014:259) and Lichtman (2014:387) assert that confirmability refers to “...how well the data collected supports the findings and interpretation of the researcher”. This implies that the findings presented in a study should indicate how well the findings flow from the data.

To ensure conformability in this study, the researcher referred the findings back to the participants and discussed their interview transcripts and the analysis of the data with them before entering the details into the final research draft. This process reduced any inaccuracies and maintained the objectivity of the study to ensure a factual assessment and addressed the conformability standards of the study.

4.9 ETHICAL CONSIDERATIONS

Ethical considerations are related to the decision-making of what is right or wrong (Fouka & Mantzourou, 2011:11). This study was conducted under the supervision of the researcher’s supervisor and the University of KwaZulu-Natal’s (UKZN) Humanities and Social Sciences Research Ethics Committee (HSSREC) to ensure adherence to all ethical standards. The HSSREC examined the research design and methods before the study commenced. Sound ethical practice in research is based on two conditions: “(i) that the researcher will conduct the research by ethical codes, and (ii) that the research proposal has been reviewed by an ethics committee for ethical soundness” (Flick, 2006b:48).

This study was also conducted under the supervision of the researcher's supervisor and the UKZN Ethics Committee to further ensure adherence to all ethical standards. The researcher complied with the university's requirements by submitting the study application to the HSSREC and full ethical approval of the research was obtained from the UKZN before study commencement. Gatekeeper permission was also obtained from the Tongaat ward council. A gatekeeper is a person who has control over the data collector and a potential respondent (Lavrakas, 2008:161).

When conducting the research project, the researcher was guided by established ethics that protect participants' rights from being violated. For example, during data collection, informed consent form sees appendix (D) with detailed information about the study, as well as verbal clarifications, were presented to the participants before the commencement of each interview. This was done to avoid any misunderstandings regarding their involvement in the study. As stated previously, the permission to enter the study area was granted by the gatekeeper and the researcher adhered to these considerations. Kirk (1999:49) argues that every participant who is directly involved in a research project should be consulted. The researcher, therefore, contacted, telephonically, the ward council's personal assistant and made arrangements for suitable dates and times for the researcher to meet the ward councillor and discuss what rules to follow in his ward. It was also necessary for the researcher to be introduced to the ward committee member who would accompany the researcher during the interviews as the interviews were all conducted during working hours at the residents' own homes.

When conducting social research, it is important that "relationships are built on mutual trust, cooperation and the knowledge that the relationship will be terminated at some stage or other when the enquiry has been completed" (Neuman, 2000:360). Therefore, for this study, the participants were ensured of their voluntary participation and could exit the study at any time.

4.9.1 Informed consent (see appendix)

Informed consent is when a participant consents to take part in a research project after having been informed about the procedures, potential risks, and benefits that may impact participation in the study (Shahnazarian, 2013:9). The purpose of informed consent is to provide adequate information so that a participant can make an informed decision as whether or not to partake in the research project (Shahnazarian, 2013:9). For this study, the researcher ensured that all the selected participants were informed about the purpose of the study before signing the consent form. The participants were fully aware of the study focus, the data collection method, and the intended

outcomes of the research project. They were given the opportunity to voice their concerns and to ask questions if they had any. The questions were asked in two languages, IsiZulu and English by the researcher, so as to accommodate different ethnicities and ensure complete participant understanding.

Furthermore, the researcher produced informed consent letters which were handed to participants before the interview commencement. The letter allowed participants to tick to agree or disagree with audio recording. The interviews were recorded as per the consent of the interviewees in order to obtain quality data from the participants. All the selected participants participated, and they all agreed to be recorded. The interviews were recorded with the use of a digital audio recorder and interview questions were read out to participants. Audio recordings store the real voices of participants and, therefore, contribute to the trustworthiness of the data collected.

After recording the interviews, the participants would listen to the recordings to give their approval as to the content. These checks are called ‘member checks’, and they are done to ensure accuracy and to ensure that the participants are happy that the researcher has gathered the correct data and interpreted their meaning accurately. The information that was used in this research study was agreed upon by both the researcher and the participant to ensure that the research would be ethically sound.

According to Rubin and Babbie (2005:101), research should always be voluntary, and no one should be forced to participate in a project. In this study, participation during data collection was voluntary; no participants were coerced to be part of the research. The researcher informed participants that there would be no remuneration or any form of reward for their participation in the study. Furthermore, participants were informed that they reserved the right to withdraw from the study and would not face any negative consequences as a result of such withdrawal. However, the researcher did explain that if a participant decides to withdraw from the study, any data they may have shared would not be discarded.

4.9.3 Confidentiality and anonymity

Babbie (2001:250) states that confidentiality implies that only the researcher and possibly a few members of his or her staff or study committee should be aware of the identity of participants and that any third parties should have made a commitment to safeguarding participant confidentiality. Anonymity, on the other hand, means that no one, including the researcher, should be able to

identify any subject afterwards – either as part of the data analysis process or in any written discussion related to the study and findings. To uphold confidentiality and anonymity, participants were not required to write their names or identifying information anywhere, and they were told that their information would be fully anonymous to the research. The researcher’s concern was also to protect the interests and well-being of participants, hence the use of pseudonyms during the data analysis and subsequent publishing of findings.

4.9.4 Management of information

According to Vos, Strydom, Fouche and Delpont (2002:343) “management of information” is the first step in data analysis away from the site. The researcher organises the data into a file folder, index cards or computer files. They continue to say that the research converts the files into appropriate text hints. For example, create a sentence, and enter a story for analysis rather by hand a computer.”

To manage the information the researcher did the following;

- Kept the information in a secure place.
- Destroyed the tape-recorded interviews of the completion of the research to honour the promise she made to the participants.

The researcher saved the information in the computer files that were only known by her to ensure that nobody sees the information collected.

Alpaslan (2010:32) states that “ethical consideration of management must be read in conjunction with the section on anonymity/confidentiality, the information provided by the participants in an anonymous and confidential manner.”

4.10 SUMMARY

This study aimed to explore electricity theft in the Staram informal settlement. A qualitative approach was determined to be suitable to achieve this aim. In this chapter, the researcher explained the rationale for using a qualitative method for obtaining data. Explorative research design was utilised. Semi-structured, in-depth interviews were conducted. A convenience sampling method was used, which was in line with the purpose of the study. The chapter also highlighted the various steps taken to ensure the accurate analysis, and trustworthiness of the data and study as a whole and reflected on the ethical issues involved in this study. The next chapter presents the findings that emanated from the collected data.

CHAPTER 5

DATA PRESENTATION, ANALYSIS, AND INTEPRETATION OF FINDINGS

5.1 INTRODUCTION

This chapter presents and analyses data collected through individual semi-structured interviews with participants residing in the Staram informal settlement in Tongaat, Durban, KZN. Staram is divided into three sections: Harry, Endliniyomlilo, and Eziweni. The interview guide mentioned in Chapter 4 was mainly used to guide the participants' responses to focus on the study topic. Topics within the interview guide were supported by the literature review presented in Chapter 2. Fifteen participants' responses were analysed to explore the perceptions of electricity theft in the Staram informal settlement. Thematic analysis is a method used for "identifying, analysing, and reporting patterns or themes within the data" (Braun and Clarke, 2006:79). Thematic analysis is performed through the process of coding and occurs in six phases to aid researchers in identifying meaningful patterns (see Chapter 4 for additional details). These six phases were followed to establish the findings for this study. The findings that are presented and discussed in this chapter are related to the questions in the interview guide (see Appendix E).

To present the findings coherently, participants' responses were grouped and divided into themes. The data analyses process yielded seven themes. Welman and Kruger (2001:88) highlighted that coding is a technique used to guarantee the recovery and organisation of portions of text to categorise responses according to certain themes. The codes in this study are based on the research questions seeking to understand the causes of electricity theft in the Staram informal settlement. For the purpose of this study, the words 'electricity theft' and *izinyokanyoka* are used interchangeably. To conceal the identity and ensure the anonymity and confidentiality of participants, the researcher assigned pseudonyms which are represented by the first letters of their respective section; that is Eziweni Participants (EP), Endliniyomlilo Participants (NP), and Harry Participants (HP).

5.2 PARTICIPANTS' BACKGROUND INFORMATION

Table 5.1 depicts the demographical composition of the participants for this study. The study comprised a sample size of 15 participants, of which five were taken from residents in each of the three different areas of the Staram informal settlement in Tongaat. All the participants were Blacks, four of whom were females and eleven of whom were males. Participants had been staying in the Staram informal settlement in Tongaat from anywhere between 6 and 32 years. Many participants were unemployed; those who were employed were doing semi-skilled jobs like petrol attendants, waiters, cashiers, or street vendors to make a living.

Table 5.1 Demographic data of participants

Participant	Pseudonyms	Marital status	Race level of education	Years spent in Staram	Occupation
Participant 1	HP-1	Single	Tertiary level	17 years	Unemployed
Participant 2	HP-2	Single	Grade 10	11 years	Unemployed
Participant 3	HP-3	Single	Matric	9 years	Employed
Participant 4	HP-4	Single	Tertiary level	7 years	Employed
Participant 5	HP-5	Married	Matric	13 years	Self-employed
Participant 6	NP-1	Widower	Standard 4 Grade 6	32 years	Unemployed
Participant 7	NP-2	Single	Grade 8	17 years	Unemployed
Participant 8	NP-3	Single	Matric	9 years	Self employed
Participant 9	NP-4	Single	Matric	13 years	Unemployed
Participant 10	NP-5	Married	Matric	22 years	Unemployed
Participant 11	EP1	Single	Tertiary level	19 years	Employed
Participant 12	EP-2	Single	Matric	17 years	Unemployed
Participant 13	EP-3	Widower	Form 1 Grade 8	27 years	Unemployed
Participant 14	EP-4	Single	Matric	6 years	Unemployed
Participant 15	EP-5	Single	Grade 11	14 years	Self employed

The following sections provide the identification, analysis and interpretation of the data according to the identified themes, as provided by these presented participants.

5.3 THEME 1: INFORMAL SETTLEMENTS' SETTING AS A DRIVING FACTOR IN ELECTRICITY THEFT

Many participants highlighted that a major loss of electricity was taking place in informal settlements. As a result, participants felt that they were left with no choice other than to steal electricity because energy is something that is indispensable, especially in urban settings. Participants indicated that they could not survive without electricity. The following are some of the selected verbatim responses from participants expressing these views:

Informal settlements are all over the world and the residents are engaged in electricity theft because they do not have legal access to electricity meanwhile all human beings need electricity. (HP-1)

The existence of informal settlement on its own is a challenge because wherever there are informal settlements there will be electricity theft. (EP-5)

I believe that the cause of electricity theft is its scarcity because if everyone were provided with electricity, there would be little or no electricity theft in the world. (HP-5)

These views echo Trevor (2010), who highlights that due to the fact that local municipalities encounter difficulties in electricity provision, the level of electricity theft in informal settlements is very high. This is also in line with Nkwanyana (2017:112), who states that electricity theft will not stop until informal settlements are discontinued because informal settlements are major electricity theft 'hot spots'. As participants noted:

Migration is the cause of electricity theft because people leave their places of origin and travel to different places to better their living standards, for example, some choose eThekweni (Durban) others choose Johannesburg or Cape Town. Before they begin their new lives, they need electricity, water and shelter. As such, those who do not have relatives to stay with are compelled to build shacks and illegally connect electricity to make their standard of life better and some are lucky because they end up owning the formal houses with proper facilities, for example, RDP houses. (HP-4)

We have been promised that our area will be electrified a long time ago. We have been patient for decades waiting for a change in our lives. The residents know each other very well as if they grew up together due to the time they have spent together striving for change in their lives. (HP-3)

Lauren (2014:148) indicates that the migration of people into the city also causes many problems since it leads to more informal settlements that are not included in urban development plans. This expansion makes it difficult for municipalities to quickly provide electricity to growing areas. While waiting for electricity provision, participants highlighted that residents resort to illegal tapping to suit their daily lives.

5.4 THEME 2: ANGER AND POVERTY AS A CAUSE OF ELECTRICITY THEFT

Participants in this study highlighted that their community is overwhelmed by poverty and anyone could see that by judging their underprivileged living standard. The participants were angry over the government's failure to provide them with basic human needs like electricity and proper houses. They lamented that the Government had long promised the community that it would deliver such services. Therefore, anger and poverty were some of the motivating factors in electricity theft. Most participants thought that their local municipality, national Government, and Eskom were losing billions of Rands through electricity theft. The participants argued that if the government was truly concerned about the loss of revenue, electrification of the area should have occurred a long time ago to prevent such loss.

These views are supported in the following verbatim quotes from some of the participants:

I am not happy that the government is worried about the loss of revenue which can be retrieved somehow while we have lost family members, friends and loved ones who are irreplaceable. We are not worried about the government and municipality's loss, because the government does not care about our need. The loss of revenue is highly important to the government as much as the electricity is important to us. (NP-3)

People fail to understand that in a community that has no electricity, the level of criminality is too high. The life is limited because you are forced to be at your premises before it gets dark, and you need to perform your daily duties before it gets dark. Sometimes the situation does not allow you accomplish your daily duties on time. The worst part is that you don't even know what is happening around the world if you do not have access to television, radio or mobile phone. Life without electricity is insincere. The level of electricity theft will never go down until the government electrifies the informal settlements that were earmarked for electrification. (EP-4)

The government must listen to all informal settlement residents and hear out the motives behind this behaviour. Doing so can help find permanent solutions rather than resorting to such punishments as removing illegal connections and arresting people, because that is a short-term goal and it will never solve anything. Instead, it appears that electricity theft grows daily because people have been waiting for far too long; and others have even died waiting for change in their lives. (HP-3)

Despite the anger that government has not honoured its mandate, we must understand that stealing electricity is wrong. We are aware that as we are not paying for the electricity we are using, there are people out there that are paying higher bills because of electricity theft. However, we were somehow forced to do what we are doing because in January 2015, we were advised not to build new shacks because the government was in the process of developing the area by providing the community with proper houses. It is 2018 now and we are still waiting (EP-1).

Soon after the committees came to this section (Eziweni) and changed the house numbers and gave us new house numbers because people were sneaking and building new shacks. They could then steal each other's house numbers in order to be registered. The committees then registered every household for water, electricity and an RDP house. We were told that elderly people will be prioritised and be given the RDP houses first. Everyone was happy hoping for change in their lives (EP-2).

In November 2015, the electricity supplying contractor came and they marked the land and put pegs to identify the spot for electricity poles. December 2015 when companies closed for holidays, they promised us that they were coming back in January to accomplish the work that they had started, up until now, the contract did not come back and there is no one doing any follow-up including, our councillors because their homes are electrified so they don't care about those of us in the Eziweni section. (EP-3)

We are unhappy, voiceless, and unfairly treated. Our rights and dignity as humans are disregarded. As residents of Staram and Emona, we had a strike in October 2014 against Eskom and the municipality, trying to voice our concerns and exercise our human rights. Approximately more than 12 of the residents were arrested during the strike. (HP-2)

Other participants shared the same sentiments by mentioning the following:

In South Africa, your voice will be ignored up until a strike takes place, that's when you will get attention. Stealing electricity is putting people's lives in danger. The frustration emanates from fact that Staram was approved a long time ago for electricity and proper houses. (EP-4)

We are concerned about our children's future because the children were doing their homework in the dark. Children need computers or tablets to do their homework, and all these require electricity. As parents, we cannot afford since most of us are unemployed. (EP-5)

The Operation Khanyisa (2010:22) study results demonstrate that economic factors such as the amount of income that a consumer receives in relation to the electricity prices are closely linked to electricity theft. Smith (2004:2071) agrees by highlighting that in most informal settlements,

the scarcity of electricity makes these spaces ‘hot spots’ for high electricity theft. In line with the current study, Lauren (2014:148) also argues that electricity theft is largely related to various social problems. For example, poverty is one such driver of electricity theft. People living in poverty are mostly marginalised, even from basic service delivery and are often so impoverished that they cannot afford some of their daily needs.

Some of the participants shared that the cause of electricity theft is that government service delivery takes for ever:

My neighbour is 87 years old. She has been in Staram for about 22 years. She has nowhere to go and she lives with a four-year-old grandchild. She is surrounded by izinyokanyoka, yet she is no longer using izinyokanyoka because she is too old and doesn't know anything about connecting electricity. She also does not have money to pay someone to look after it in times where it shut down because izinyokanyoka is on and off. ... She is using gas and paraffin and candles, and this is not safe both for her and the grandchild. It is also expensive because she must send someone to fill up the gas for her because she could not carry it, its heavy. In the bus, you must pay R5.00 for that luggage plus the passenger bus fare of R12.00. Additionally, she must pay R400 for the gas, then candles and matches monthly which cost about R27.00. A litre of paraffin is R13.00, and she uses it in a week all that was expensive, and it makes life difficult, yet buying an electricity card would be easy, cheaper and safe (NP-1).

I work in a restaurant, and I work on a shift basis. Sometimes I come back from work in the evening starving and exhausted all I need is to bath, iron the uniform, and charge my phone for alarm to wake me up because the next day my shift will be starting at 6 o'clock in the morning. I need to prepare everything fast and safe, hence I definitely need electricity. These are all the causes that direct us straight to izinyokanyoka. (NP-2)

In wealthy communities, people are respected; whatever they say goes. They cannot even survive without electricity for a few hours e.g. when there is load shedding. People always blame the poor people living in the shacks as the cause for load shedding because of electricity theft, which is true. Although it might be true, those who blame shack dwellers have not thought of the motivating factor and the way forward. (EP-2)

5.5 THEME 3: THE NEED FOR ELECTRICITY AS A DRIVING FACTOR IN ELECTRICITY THEFT

Based on the participants' responses, it became evident that electricity theft occurs due to diverse motives. However, all participant answers still pointed in one direction – the need for electricity. Those who had electricity were concerned about high bills, which led them to steal electricity partly because they were no longer able to afford it, and largely because they knew that their

neighbours were not paying anything for the electricity they were using. Identified gaps in the community were that: culprits were getting away with electricity theft and had no understanding of how serious this crime is; community members lacked understanding in terms of how Municipality and Government services work; and there is a lack of communication amongst community members, ward counsellors and committee members. The following verbatim responses were shared by several participants:

The reason for stealing electricity is that electricity is a basic need. Without electricity, my life is on hold, yet I want to be independent. I do not want to be one of those people who mourn for Government grants. In order for me to fulfil my goal, all I need is electricity.

My spinal cord was damaged. I am a chef by profession and because of the damaged spinal cord, I can never be employed as chef again. Instead of complaining to Government about the grant, all I wish is to have proper electricity and pay around R200 a month and then open up my own business (fast foods). However, I cannot do that because of lack of electricity. The fridge needs electricity and that stolen electricity is not guaranteed, it's on and off. You have to pay someone to go to the bush and fix it for you since most residents have either a little bit of knowledge about electricity or no clue at all. People that reconnect izinyokanyoka are charging money. Apart from the fast foods business, I have a talent in music, I got the instruments, but the problem is that the instruments need electricity, so all in all my life is on hold because of electricity. (HP-2)

The cause of electricity theft in Staram and any other informal settlements for that matter is that electricity is one of the basic human needs. Since the government, municipality, and Eskom people have access to electricity, we also need it as Staram residents. (EP-2)

People can debate the whole day, stealing electricity in this area is motivated by diverse motives, some of which I am aware of and others I am not. However, one thing I can assure you is that none of the residents enjoy stealing electricity because it never ends well. Some of the residents are living with scary scars, others are paralysed. Others even died as a result of electricity theft. (HP-3)

If you do not have electricity, you cannot buy goods in bulk which is cheaper than buying single items. Even in the furnisher shop, gadgets such as fridges and stoves that operate with gas are more expensive than the ones that use electricity. (HP-1)

Mostly, people who use illegal electricity argue that it is necessary for their daily functioning until the Government provides legal access (Operation Khanyisa, 2016:17).

As briefly presented in HP-1's comment, participants stated that electricity was much cheaper than alternative forms of energy, such as gas or paraffin, the prices of which are related to oil and petrol prices. Hence, they are always subject to going up, they are dangerous, and one buys too many things and it is time-consuming while buying electricity card will cover everything and it is safe.

In Chris' (2008:8) report, some of the residents described by municipal city workers as tapping into the power lines illegally stated that they did not understand why their money was accepted by the same municipal workers if their connections were truly illegal. Participants involved in electricity theft get away with this crime, are lightly fined and go back to their families and continue with electricity theft. This current study found similar attitudes, especially with regard to people treating electricity theft as the right thing to do – they do not take the crime as seriously as compared to other criminal cases (Roycroft, 2013:530). Furthermore, illegal connections are removed regularly, but later the same day they will be up and running again.

5.6 THEME 4: ELECTRICITY THEFT AS A RESULT OF GOVERNMENT'S NEGLIGENCE

The participants in this study argued that people were stealing electricity because the government had failed to provide the community with this basic human need. The residents were then using what was accessible to get what they needed to move forward in life. The following is what some of the participants shared:

The government should provide people with proper houses with water and electricity. These are basic human needs. Since 2010 here the Harry section, about 18 transformers have been replaced, which is highly expensive. That shows how tense electricity theft is in this area. The replacement of transformers was perhaps equivalent or closer to electrifying the community. (HP-3)

I am unhappy because no one ever thought of electrifying the poorest informal settlements, which I think will be a positive in minimising electricity theft and also cutting the costs of redoing the work, e.g. replacing the transformers. (HP-4)

Other participants shared the challenges they encounter as informal settlement residents:

If you reside in informal settlements, it is not easy to access formal institutions of society because of such challenges as not having a formal residential address. Adults from informal settlements hardly get jobs in the suburbs as either a garden boy or helper because the employer does not trust people from disadvantaged areas. This happens even in multiracial schools where they do not want to take children from informal settlements. (EP-5)

Life without electricity is expensive. We bought a generator for about R6000. The petrol needed for the generator costs about R65 weekly. We also need paraffin which is also dangerous to the children. We need to buy matches, candles, etc. while an electricity card for only R200 is safe and will last you for the whole month. (EP-1)

Throughout the interviews, participants indicated that corruption was high amongst electricity department employees. The residents saw this corruption, but they could not do anything about the situation because no one was ever going to listen to their concerns. The following verbatim responses express the participants' views:

From my understanding, the biggest concern here in Ndliniyomlilo is that every resident registered for electricity, but it happened that about 14 houses were not electrified. This happened despite that Eskom (Stanger) had ensured that the equipment that was delivered was enough for all the residents because all the residents were on the list. We wonder why the council did not take further steps to investigate what happened. Similarly, didn't Eskom evaluate the project that they have started? It was clear that the material was sold to their connections or relatives, because other families here have three electricity boxes instead of one. In principle, one family should have one electricity box. (NP-2)

Eskom and the ward councillors must be blamed for negligence. They were supposed to track the project to make sure that the work was done fairly and completed to make sure that the whole section is electrified, but never; instead, people were paid for the work they never accomplished. (NP-4)

The sad part is that a number of people have died through izinyokanyoka and nothing was ever done to stop or protect the residents here in Harry. Instead, Eskom employees told the residents that in case anyone dies while illegally connecting electricity or any way involved in izinyokanyoka, they have no right to claim for compensation or get any Government grant because awareness was conducted in Staram area. The sensitive part is that there is no proof whether you were walking past, or you were stealing electricity, so they always assume that you were involved in electricity theft and you sometimes don't get the assistance urgently. (HP-3)

We are being pushed to vote; we get nothing in return. We are tired of voting. We believe that human beings must be provided with basic needs which include safe drinking water, electricity, and shelter. (EP-1)

During the interviews, most participants repeatedly highlighted that they were being pushed to go and vote, but that voting did not benefit the residents in any way. This finding aligns with Miriam (2011:94), who demonstrates that electricity theft normally occurs during election times. It is also in agreement with Katiya (2005:646) who used data from India to demonstrate that the stealing of electricity is clearly politically related.

5.7 THEME 5: THE NATURE OF ELECTRICITY IN THE STARAM INFORMAL SETTLEMENT

Throughout the interviews, participants indicated that none of them enjoyed stealing electricity. The most common kind of electricity theft that participants identified was an illegal connection to existing power lines. This confirms previous findings that illegal connections are quite common in South Africa's high density suburbs (Vuk'zenzele, 2011:83) – to the point that some locally owned businesses such as spaza shops and car washes, among others rely entirely on illegally connected cables to keep afloat (Sowetan Live, 2016).

Furthermore, participants highlighted that most people who practiced illegal connections in the Staram area were not qualified. Instead, they were learning along the way. From the interviews, it became clear that all the participants seemed to have the same feeling about the impact of electricity theft, particularly within in the Harry section, and how it can lead to injuries or fatalities. Participants shared a common sentiment that even if someone did not want to steal electricity, they would likely end up doing so because of surrounded by *izinyokanyoka*.

Here are some of the verbatim participant responses in this regard:

Electricity theft in a form of illegal connections in Staram was in public eye, live wires were hanging all over the trees, fence some along the road over approximately 505 houses were stealing electricity in that section (Harry) excluding and the other two sections. (HP-1)

The biggest challenge in fighting electricity theft is that even if you don't want to be part of it, you cannot overlook it because you are surrounded by it and it is real. Here in the Harry section, people use wires to connect right on the top of the supplying transformer and we use it for everything. (HP-1)

Electricity theft has resulted in people getting fatal injuries; many of them have died, including innocent children and animals in this area. Izinyokanyoka is unsafe because it kills you whether you are directly involved or not, we all live in fear because we don't know who is next. (HP-2)

We are aware that every action in life has an outcome and it all plays out in different ways. Unfortunately, in Staram, Harry section, electricity theft plays out in two ways; it's either injury or death. (HP-4)

Sithole (2018:45) confirms that there are many people who have died due to illegal connections in Tongaat. Power theft carries deadly risks and when illegal connections claim lives, it is not only

the lives of the perpetrators lost but also innocent community members (Vuk'zenzele, 2014:32).

As some of the participants noted:

Through stolen electricity, I lost three children through who were electrocuted. They died on the spot. I suffered a lot to see my own blood and flesh turned into corpses; not one or two but three! Burying my children was difficult and painful. I am an unemployed single parent who depends on child support grant. It was difficult for me. (HP-3)

I am unemployed because I was injured by izinyokanyoka while walking in this area. This whole left side is not working from head to toes. Furthermore, I am still attending physiotherapy and I am not getting any form of grant from the government, not even a food voucher or parcel to feed my family. (HP-4)

Many people here in Eziweni are using wires to connect the bottom of the transformer. The electricity is only used for lighting purposes. The reason for Eziweni residents to connect at the bottom and not on the top like those in Harry is that the transformer at Eziweni has no many paying clients. The transformer only supplies one Indian house, so if we connect izinyokanyoka directly to the top the transformer will burst and it will not be replaced. (EP-1)

In Eziweni area, there has been no disaster like people dying or dangerous explosion because our electricity is very weak; we use it for lights, radio and television only. You can't even plug a fridge because it is very weak. (EP-3)

Here in Endliniyomlilo, we use electric poles that were left at the contractor's premises since the material was not enough for all the sections. Electricity boxes got finished, so we are using the thin white electric wire and we hang them on along the trees or up to the roof. (NP-2)

We are using the white thin electric wires. We dig and lay them underground. That way it is neat and safer because the wires are dangerous. Although the wires can shock the whole body badly, the shock has never resulted in death. Some put a pin to rob it so that we won't buy electricity card now and again. (NP-3)

I have an electricity meter box inside my house. It was installed by the electricity company group that was wearing red overalls. It is blank but it was once working perfectly. It has been around two years now and I have never bought an electricity card. (NP-5)

In the Harry section, transformers are being damaged and replaced several times due to the heavy load of electricity theft, but no one ever thought of electrifying the area to prevent that situation. (HP-3)

The nature of electricity theft in this area is severe because the live wires are left hanging all over the floor surface, which is very dangerous if it's raining, and if it is thundering the wires spark, and if it's too hot the atmosphere is full of fuse smell. (HP-4)

5.8 THEME 6: THE CHALLENGES OF RESPONDING TO ELECTRICITY THEFT IN THE STARAM INFORMAL SETTLEMENT

The participants indicated that the challenges of responding to electricity theft seem to be a major problem, with finances being the biggest issue. The responses from participants were all similar and pointed to the relationship between the need for electricity and poverty as being a key driver of electricity theft. Participants noted that Staram residents are poor and cannot afford proper houses with standard fittings. They also highlighted that the majority of residents in their respective areas were unemployed and depended on Government grants such as the child support grant, older person grant, and foster care grant for survival.

Here are some of the participants' verbatim statements in this regard:

The biggest challenge in responding to electricity theft in this community is that people reside here are poor so stealing electricity benefit us because we do not pay for it; that is the reason why the illegal connections is being removed regularly but we connect it back same day because it helps us to fulfil our needs. (HP-1)

The false contractors are installing the illegal private meters for residents which seems to work faster and safe for now so all the resident will slow down to izinyokanyoka and join this strategy up until everyone is treated equally by providing proper electricity. (NP-1)

It is not only the ones that do not have proper electricity that are stealing it, even the smaller portion here that have proper electricity are stealing it; the difference is that they using pins and other stuff to interrupt the meter because they are also complaining that their card get finished quickly. Because of izinyokanyoka you end up buying the card for roughly around +/-R600 a month which is totally unfair. (NP-2)

The problem to fight electricity theft is impossible because other sections do have, and others do not have so none of them that will pay for it while seeing others get it for free. To curb it they need to electrify all the sections of Staram. (EP-1)

My sister, the ones that are disconnecting izinyokanyoka for us do have electricity and they tell us to be patient, the question is for how long because we have been waiting for far too long. The other reason for electricity theft here is because people have lost patience. (HP-2)

People do not understand the feeling of not having electricity especially if you are surrounded by it because truly speaking everyone needs electricity to live a normal life whether you are poor or rich. So we can debate the whole day but electricity [theft] will not stop, not only in this community but it will never stop world wide as electricity is needed throughout the entire lives; the government must treat people equally by providing them with what they need. (EP-3)

The study found that the participants were involved in electricity theft, mainly because they were affected by poverty. As a result, their response to the environmental conditions of the place in which they reside is electricity theft. Because of poverty and the inability to get access to basic services such as electricity, participants ended up committing electricity theft to be able to cook, get warm water, and have light in their houses (shacks). Even if people were to get electricity legally installed in their shacks, they would not be able to pay for it or buy meter electricity because most who reside in such settlements do unskilled or semi-skilled labour and do not earn enough money to be able to afford the costs. Consequently, this leads to them committing electricity theft.

These views support previous research by Seger and Icove (1981:258) that suggests that electricity theft is a silent crime which even when people acknowledge that it is wrong, they will not report it. Indeed, this study found that people from Staram often chose not to report electricity theft since it is beneficial to them and makes officials' reliance on tip-offs an effective approach. This further aligns with the study's theoretical framework based on Economic Theory, which highlights that crimes occur when the benefits outweigh the costs. Additionally, Chris (2008:8) states that people argue that they are illegally connected because having electricity is a basic human right.

5.9 THEME 7: CURRENT PREVENTATIVE MEASURES IN STARAM INFORMAL SETTLEMENT

Participant highlighted that in their area, there had not been many preventative measures since the majority do not have electricity, so the community only do illegal connections, or the contractors connect for them at a cost. So it was found that the only measures that were familiar and experienced it was the removal of illegal connections which did not work for them because they were connecting soon after the cars leave and safety awareness was conducted where they were warned about electricity theft. Participants indicated that the eThekweni municipality has tried to mitigate electricity theft and to control it by removing illegal electricity connections.

The following verbatim responses further highlight these perceptions:

On preventative measures I would not say much about it beside that awareness programs are conducted regularly to educate residents on safety matters and to report electricity theft as well as the consequences of illegally connecting electricity in Endliniyomlilo because that section do have electricity. (NP-1)

No one will report electricity theft in this area because it is something that everyone does, and it works out for them at first. We really had a problem to the point that myself and my friend reported the matter, and nothing was done. We left our houses for renting out because we didn't want to be part of it, but it looked like we were working for them because we would be buying prepaid now and then and we ended up joining the winning team even though [we would] bury people week in week out; some are paralysed (HP-1).

We normally see them when they come to disconnect izinyokanyoka but none of them have asked us why we are doing that, and disconnecting will never help because soon after they left we connect it back. (HP-2)

Community members were once arrested for suspecting them of being involve in electricity theft without the evidence because they were not caught red handed and later that day those residents were sent back home because of insufficient evidence. (EP-1)

What they are doing [to] us is cruel because same people who [are] disconnecting the izinyokanyoka do have electricity where they stay and these disconnections always result in conflict because us as residents feel that we are being treated unequal because when we beg the government no one listens to us but when we find solutions ourselves the whole Eskom jumps to sabotage us. (HP-2)

Electricity theft is deep because it is something that you plan before you involve yourself because we have seen the outcome of it and it's never easy. So for them to just disconnect it will not help because we have the reasons for doing that, not that we are proud of what we are doing; truly speaking, is that none of us enjoys this life we all want to live a normal life that is why we ask for proper electricity. (EP-3)

On the 26th of March, 2018, we had a meeting with the council and we were told that The Electricity Service Unit engaged with the Tongaat Ward Council to identify a permanent solution to electricity theft in the Staram informal settlement; the community members were given the blue electricity stickers which show that this area will be electrified soon. (HP-1)

It should be noted that soon after these interviews took place, and after all the preventative measures noted in the study were put in place, a final decision was made to electrify the area. On The Official Website of eThekweni Municipality by Mluleka, a decision was announced that on the 27th of August 2017, Mayor and Councillor, Zandile

Gumede, who was accompanied by the chairperson and councillors of the Human Settlements and Infrastructure Committee as well as various Tongaat councillors. With this announcement, it was indicated that R 120 million would be launched to improve the living conditions of informal residents in Ward 61 (that is, residents across Harry's Farm, Firehouse, and Staram). Total of 1082 families will benefit from that housing development

5.10 CONCLUSION

This chapter presented the analysis and interpretation of the data that were collected from Staram residents. Thematic analysis was used to analyse the data. Seven themes were developed to explore the causes and preventative measures of electricity theft. The next chapter provides an in-depth discussion of the findings.

CHAPTER 6

DISCUSSION OF FINDINGS

6.1 INTRODUCTION

This study was conducted to explore electricity theft in the Staram informal settlement in Tongaat, Durban, KZN. It had four objectives, which were achieved by using a qualitative research approach. The previous chapter presented the analysis and interpretation of the data collected using in-depth interviews. This chapter discusses the findings presented in Chapter 5. The analysis generated seven themes. This discussion of the findings is based on the objectives of the study. The discussion integrates the findings with the relevant literature presented in Chapter 2 and the theories that underpinned the study, as per Chapter 3. This chapter is guided by the following objectives:

- To explore the causes of electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN.
- To assess the nature of electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN.
- To examine the challenges of responding to electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN.
- To evaluate the current preventative measures for mitigating electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN.

6.2 OBJECTIVE 1 - RESEARCH QUESTION 1:

To explore the causes of electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN

This study found that people in Staram were involved in electricity theft, mainly because they were affected by poverty. Electricity theft is mostly motivated by economic factors such as the amount of income received by consumers being inadequate when compared to electricity prices (Miriam, 2011:95; Smith, 2004:2070). As a result, consumers in Staram respond naturally to their environmental conditions. That is, because of poverty and the inability to gain access to basic

services, such as electricity, participants noted that other community members end up committing electricity theft to be able to cook, get warm water, and have light in their homes.

Electricity is vital, and the principal source of energy to the vast majority of households, businesses, and municipalities (Electricity Budget, 2011). Nowadays, everything is done electronically, which forces every human to conform to modern electronic processes and move away from old fashioned methods of going to the shop and buying candles or refilling gas or paraffin which is time consuming and also sometimes increases prices. Moreover, these older methods of operation and energy alternatives can make life difficult, dangerous, and expensive. One participant provided an example of an old citizen carrying a heavy gas bottle to refill it and who had to use public transport, pay additional charges for the 'luggage', and still needed to buy candles and matches in addition to the gas. Conversely, the participant claimed, using a phone to ask a child to buy electricity and send the voucher number using mobile data is done in a second, to a far less expense. The study further established that the causes of electricity theft in Staram were motivated by the factors discussed in the following sub-sections:

6.2.1 Poverty

Poverty is one of the most powerful factors that drive a desperate person to take the wrong action, since the majority of poor people, young or old, are eager yet unemployed (Adepoju, 2005:273). When someone poor tries several legal options without succeeding, they can become desperate and commit a crime without thoroughly thinking about the consequences (Adepoju, 2005:273). Yelland (2015:3) reported on the ESA Africa power journal on June 2015 that SA electricity theft is on steady incline due to the high rate of unemployment and poverty, resulting in Eskom losing billions every year. This study found that poverty in Staram, was one of the key driving factors for widespread electricity theft. This finding corresponds with local municipalities' claims indicating that electricity theft is largely related to various social problems. The problem is that households in informal settlements fall within indigent policies and have a monthly income of less than R 1 to R 500, or no income at all (eThekweni Municipality, 2011).

Economic factors, such as the amount of income that consumers receive in relation to electricity prices, are also closely linked to electricity theft; therefore, increases in consumers' income should result in a lower rate of electricity theft (Miriam, 2011:96; Smith 2004:2070). People living in poverty are mostly marginalised from basic service delivery, and many impoverished people cannot afford some of their daily needs (Lauren, 2014:145). This study supported these previous

findings, as the few inhabitants of Staram who took part in the study unemployed and who were employed were doing semi-skilled jobs, which paid them a salary that only covered basic groceries. Participants highlighted that most employed residents had worked as petrol attendants, waiters, or cashiers. According to Becker and Stigler (1968:175), the Economic Theory (see Chapter 3) argues that criminal acts are committed in instances where the amount of gain from crime is greater than the expected costs. The theory is also concerned with how society utilises its scarce resources. These theoretical assertions were evidenced in this study since individuals who were stealing electricity in Tongaat reported living in varying levels of poverty. The decision that individuals make to commit a crime (such as stealing electricity), thus, assists with the provision of satisfaction and benefits about available choices for their self-interest (Becker & Stigler, 1968:175). In other words, people first calculate the cost-benefit of committing a crime before taking action (Baccaria, 1963, cited in Scott, 2000:66).

Furthermore, the Economic Theory states that all people in society make decisions based on rational thinking, even when they choose something for pleasure or profits. This is evident in the study findings, as Staram residents noted that they have a free will to engage in criminal behaviour or not; yet, because of socio-economic conditions, they often choose to engage themselves in electricity theft to meet their needs. As Jones (2001:129) said: "...poor communities result in social disorganisation because they do not have adequate resources to deal with their problems". This resulted in Staram residents become socially disorganised by finding their way to utilise the scarce resources by installing false electricity meters to avoid paying electricity bills because of their economic status and connecting electricity illegally to using the presented resources which is the Eskom transformers.

The UN-Habitat (2002:115) report defines informal settlements as a wide range of low-income settlements of poor human living conditions inhabited by the poor and commonly found in cities across the developing world. In an eNews Channel Africa (eNCA) interview in April, 2016, it was found that most people who carry out illegal connections (on behalf of other people) confess that the reason they choose to do something so risky is because of unemployment and that illegal connection were the only way for them to access electricity.-Economic growth in the Tongaat area has not been in line with its increasing population growth.

As noted in Chapter 2, Marcus Aurelius (as cited in Shaw and McKay, 1942:41) once said: "Poverty is a mother of crime". This element of poverty is essential within this study because it was found to be the leading cause for people to commit electricity theft in the Staram informal

settlement. Generally, the people of Staram are well aware that stealing electricity is an illegal act, but many participants blamed the high unemployment rate and poverty reasons for people stealing electricity.

6.2.2 Migration and overpopulation

The study also found that people leave their place of origin because of poverty and migrate to urban areas to fulfil their goals. The most common type of urbanisation occurs when people migrate to urban areas to seek economic opportunities and better their living standard (Ghani, 2017:71). In line with the finding confirming that the majority of Staram residents interviewed for the study were not originally from there, participants highlighted that even though they came from different places to fulfil their goals.

The migration of people into cities escalates electricity theft since it leads to more informal settlements developing that are not included in urban development (Lauren, 2014:148). This increased unplanned development makes it difficult for municipalities to quickly supply electricity to the growing areas (Lauren, 2014:148). The majority of people who reside in the Staram informal settlement are not originally from there but came to the settlement to live there and better fulfil their needs. Example, the first thing that they will need to survive is water and electricity as cities offer no alternative like in rural areas where individuals can make fire and fetch water from the river. Hence, they connect electricity illegally because they need it but do not have legal access to as the Staram residents connected illegally to satisfy their needs.

6.2.3 The increasing number of informal settlements and the scarcity of electricity

There are many reasons to believe that the scarcity and unpredictable supply of electricity mainly in poor communities such as informal settlements are, in part, results of widespread electricity theft (Golden and Min, 2012:88). In most informal settlements, the availability of electricity is very scarce, which makes these settlements 'hot spots' for high electricity theft due to residents attempting to utilise this scarce resource (Smith, 2004:2074).

According to Lemaire (2010:10), the housing department responsible for providing urban services is failing to meet up with the demands of growing urbanisation in South Africa, especially in relation to rapidly developing informal settlements. Participants in this current study further supported this assertion as they mentioned that they have waited for decades for the Government to meet its approved development promise of electrifying their area and allocating formal houses

to residents. Given that considerable time has elapsed since the government's approved plans and promises, participants noted that they and other community members have decided to steal electricity to fulfil their needs. Scott (2000:66) believe that human beings are logical and weigh the option of being caught for a crime with the benefits of the crime. Since Staram residents stated that no one had been sentenced for this crime and in other places they have seen the suspects being released because of insufficient evidence which make them believe that they will not get caught while enjoying their benefit of having free electricity.

The provision of services (such as water and sanitation, road infrastructure, domestic waste collection, and electricity) to informal settlements is conducted through local municipalities (eThekweni Municipality, 2011). However, when governmental departments are unable to keep up with the demand of supplying electricity to informal settlements, people resort to power theft to meet their needs (Scott, 2000:70). The fact that participants noted a lack of supply and ineffectual promise delivery by their municipality supports this kind of previous research.

6.2.4 The need for electricity as a driving factor in electricity theft

Electricity is extremely important for both commercial and domestic purposes (Electricity Budget, 2011:27; Sutton, 2007:81). The South African economy is uniquely dependent on electricity (Fine and Rustomje, 1996). Modernisation has led to the emergence of new technological devices like televisions and mobile phones that demand a constant supply of electricity (Kamoto, 2005:30; Ndletyana, 2007:99). As informal settlements develop, more power outlets are required, but the local utility supplier cannot always provide such outlets on short notice

The introduction of the Integrated National Electrification Programme by the Department of Energy in 2011 has ensured the electrification of poor households in formal residences, rural and urban areas, informal settlements, and un-proclaimed areas. Huang (1990); Ferguson, Wilkonson, and Hill (2000); and Greene (2000) have all stated that economic growth and electricity demand are related, as changes in economic growth impact electricity demand and usage. The majority of informal settlements have still not received significant development attention, whether in the form of full upgrading or relocation. Indeed, Misselhorn (2008) asserts that informal settlement residents remain substantially outside of the new South African democracy and do not receive tangible benefits from Government programmes and policies. This idea was substantiated by participants who mentioned that electricity is indispensable, especially in urban settings, as urban populations cannot live or carry out basic daily functions without electricity. However, challenges

such as the increasing number of informal settlements, which results in the scarcity of electricity supply constantly negatively affect all communities which are permitted to be provided with electricity.

6.2.5 Dissatisfaction with service delivery by the eThekweni municipality

The study found that the level of dissatisfaction amongst the residents of Staram regarding the municipality's service delivery was quite high. Participants mentioned that they had been waiting for decades for electricity and formal houses, hence why they have resorted to stealing electricity. They argued that their electricity theft is justifiable due to the lack of service delivery of this crucial power source and housing. They further demonstrated their dissatisfaction by highlighting that even though they are in the new democratic dispensation, their basic needs, such as electricity, are still not met. These findings are in line with Nkwanyana (2017:115), Poni (2008:120), and Smith (2004:2074) who have all reported that most people in informal settlements are poor and cannot afford to buy proper houses, which is why they build shacks while waiting for Government programmes and steal electricity to satisfy their needs.

While poor service delivery may be common in many countries, the causes for dissatisfaction may also vary depending on the ways in which a government supplies basic public services to its citizens; especially when such service delivery conflicts with the original agreement or policy related to it (Joseph, 2010:503). Such an understanding provides an interesting perspective regarding the deeper motives behind electricity theft, especially within disadvantaged communities. For example, in the case of this study, participants strongly believed that people from rich communities are respected and their voices are recognised, while the poor's voices are never recognised. Instead, participants noted that they are reminded to vote, but even after voting, they are still not heard – leading, even, to communities needing to protest to exercise their voices.

6.2.6 Voting

The level of electricity theft is mostly higher in countries characterised with ineffective state and political systems. According to Joseph (2010:505), what often appears to frustrate citizens is how they perceive Government's pushing them to go and vote for their concerns to be recognised and attended to with little results post-election. This current study's findings support this assertion, and further highlight how the stealing of electricity is politically related. According to Smith (2004:2071), Miriam (2011:96), Katiyar (2005:665), and Joseph (2010:503), electricity theft

normally occurs during election times as residents attempt to prove that promised electrical services to have not yet been provided.

6.3 OBJECTIVE 2-RESEARCH QUESTION 2:

To assess the nature of electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN

Participants noted that the nature of electricity theft in Staram resulted in accidents that left people living with disabilities. “‘Disability’ refers to a lack of physical, mental, or social fitness”; that is when someone’s body is unable to function in the way it is supposed to (Geddes & Grosset, 2014:92). The disabilities that were identified by participants were physical and mental in nature. Participants noted that both people and pets had also died from fire and electrocution due to illegal connections. These findings corroborate Operation Khanyisa (2012:11) assertions that when electricity theft claims lives, it does not kill only those who are directly involved but may also kill innocent souls.

Illegal electricity connections also put additional pressure on the national grid and contribute to power cuts (Dube-Ncube, 2015). There have also been numerous incidents where children, some even younger than 5 years, have lost their lives due to the negligence of adults in the community related to illegal connections. Dube-Ncube (2015) reiterated that people need to remember that illegal electricity connections pose risks to the entire community. The nature of electricity-related injuries and deaths in Staram further proves the seriousness of this crime as well as the general impression in that community towards electricity theft.

The major impact of electricity theft is on both the country’s total economy as well as its citizens. Kelly-Detwiler (2013:100) confirmed that electricity theft is a global challenge that not only affects developing nations but also developed nations such as the USA and Canada. The author also reported that electricity theft-related damages are out of control, and the levels continuously cause negativity to economies (Kelly-Detwiler, 2013:100). According to Bella and Grigoli (2016:4): “...high electricity costs and electricity shortages act as a disincentive to investment, hamper competitiveness, and complicate efforts aimed at poverty reduction

The impact of electricity theft affects many sectors, from citizens to businesses and even the government. However, the greater impact of the damage done by perpetrators is not always seen or experienced by them as they benefit most from the crime; this is why electricity theft is referred

to as a 'silent' crime. The literature reviewed stated that on-going damages incurred to the South African economy due to electricity theft were huge. For example, electricity theft is estimated to cost Eskom R 7.5 billion a year (The Citizen, 2016 Stealing electricity has devastating consequences and is a serious social problem, as when electricity theft occurs it leads to increased charges on electricity utilities, which, in turn, leads to higher prices in items such as food and transportation (Operation Khanyisa, 2016:33).

While electricity theft costs South Africa billions of Rands in losses annually, it remains one of the least reported crimes in the country (Operation Khanyisa, 2012:11). From the interviews, it was clear that people do not treat this crime as other criminal acts because, more often than not, people get away with electricity theft. In an eNCA (2016), it was asserted that suspects who have been found guilty of electricity theft have only generally been handed sentences as short as 3-6 months. Participants also admitted that the theft of electricity in their community was not a secret activity.

The findings also confirmed that the most common kind of electricity theft in the area of Tongaat was illegal electricity connections; however, participants also indicated that another common kind of electricity theft occurred through meter fraud. Participants highlighted that the practice of illegal connections often took place by connecting lines through the nearby supplying transformer and had resulted in the replacement of about eighteen transformers within the space of three years. This supports previous findings that this particular form of stealing electricity is popular in almost all informal settlements (Trevor, 2010).

6.4 OBJECTIVE 3 -RESEARCH QUESTION3

To examine the challenges of responding to electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN

6.4.1 High demand, poor delivery

One of the main challenges of responding to electricity theft is that informal settlements grow daily, and the bigger the number of informal settlements, the higher the rate of electricity theft, due to increased demand for this service. Lemaire (2010:12) mentions that the housing department responsible for providing services in urban areas is failing to meet the demands of growing urbanisation in South Africa. Between the period of 2006/7 and 2009/10, electricity demand increased from a rate of 5.1% to 31.3% (Chihore, 2014).

According to participants in this study, due to this lack of service delivery, electricity theft seems to be treated as the right thing to do in informal settlements. This attitude is in line with Trevor's (2010) finding that due to local municipalities encountering difficulties in electricity provision, the level of electricity theft in informal settlements are very high. Similarly, Nkwanyana (2017:112) says that electricity theft will not stop until informal settlements are discontinued. This is because informal settlements are major electricity theft 'hot spots'. These ideas are further supported in this current study, where participants confessed that almost everyone in Staram is involved in electricity theft. Participants cited that residents shared similar characteristics of being trapped in unemployment and poverty, which are the two main factors recognised as leading to electricity theft in that community.

6.4.2 Ineffectual law enforcement

Another challenge in fighting electricity theft, according to this study's participants, is that culprits get away with the crime, or receive only minor fines or suspended sentence, which is why people do not take this crime seriously and do not report electricity theft. Indeed, participants noted that due to the minimal punishment related to the crime, community members do not perceive this crime as being as serious as other criminal cases. Dlamini (2015) states that hundreds of exposed illegal electric wires around the Thuthukani informal settlements in Sea tides, Tongaat, were being removed when an innocent child was electrocuted and died on November 2014. Additionally, infrastructure like streetlights no longer work, and roads are full of potholes in the Tongaat area because of residents digging up the road to place *izinyokanyoka* underground. Even in such cases, however, perpetrators' charges are often dropped because of a lack of evidence, and low fines are imposed, which, according to participants in this study is a poor deterrent. Indeed, almost 50% of cases that have been opened by Operation Khanyisa have not made it onto the court roll. An Eskom National Survey revealed that while about 96% South Africans are aware that electricity theft is a crime, only 16% believe that they will get caught, and only 14% believe that they will be prosecuted (Lowvelder, 2016:65). These kinds of statistics and incidences of low prosecution, along with participants' assertions that they steal electricity because Government has failed to provide the service, show that the law still needs to play its part and implement appropriate preventative measures to effectively counter electricity theft in informal settlements – particularly those settlements like Staram in Tongaat.

6.4.3 Shortage of resources and corruption

The shortage of electricity resources also remains a challenge for municipalities as their installation that such replacements equate to the possibility that Staram may already have been fully electrified. Thus, the shortage of the resource is further compounded by theft, as opposed to allowing Government the opportunity to undo the shortage and supply sufficient power to the whole community. Similarly, people may dig holes in roads to hide *izinyokanyoka*, and then that road needs to be fixed, which destroys the municipality's budget and causes a further shortage in electrical resources, which then leads to poor service delivery (Nkwanyana, 2017:121).

According to Lovie and McKehnie (2000), corruption includes the involvement of bribes paid to internal employees or demanded by meter readers for citizens to get an electricity connection. Ahmed (2012) notes that the existence of corruption in the electricity sector can be seen in all operations, including generation, transmission, and distribution. Another challenge of responding to electricity theft related to corruption can be found within municipal employees being involved in electricity theft by installing private meter boxes in residents' houses. It was found, in this study, that internal employees collect bribes and help consumers or culprits to steal electricity. Internal employees also steal materials from the company and then use these materials to install private meters and charge high prices within communities. Some participants in this study admitted that they had had a meter for about three years without loading an electricity card because the system was working perfectly. Participants also noted that residents were working so closely with internal employees or contractors that they refused to report these employees for prosecution. This refusal aligns with the Economy Theory in that residents believed the gains of not reporting corruption were greater than potential losses related to it.

In most cases, electricity theft is facilitated by corrupt staff from within electricity organisations who aim to use their access to a power supply to fulfil their own needs (Joseph, 2010:504; Vietorhavlansheldahl and Thomason, 2017:56). Such corruption often occurs by consumers bribing these officials or the inspectors responsible for electricity control and usage (Vietorhavlansheldahl and Thomason, 2017:56). In other cases, Clarke & Xu (2004:2067) states that sometimes perpetrators end up attacking electricity workers, and some of the workers accept bribes to prevent future attacks which results in the continued stealing of electricity.

6.5 OBJECTIVE 4 -RESEARCH QUESTION4

To evaluate the current preventative measures for mitigating electricity theft in the Staram informal settlement in Tongaat, Durban, in KZN

The participants in this study suggested that the government should listen to the people concerned to find a remedy for electricity theft. Grobler, Schenck, and Du Toit (2003) confirmed that, in order to understand a person, they must be listened to as a whole; that is, his or her experiences, their needs, perceptions, and how they attach meaning to their experiences, emotions, and values must be taken into account. Of the 15 participants, six shared the same feeling that stealing electricity is motivated by the unmet needs of the community, which was one of the main reasons why the residents have connected electricity illegally. Chris (2008:8), stated that people argue that they are illegally connected to electricity because having access to electricity is a basic human right and needed for survival. They have been citizens of Staram for more than thirty years and are still living in the dark even though they participate in elections in the hope of gaining a better life and development.

Electricity is a basic need; every human being living in the modern world needs to have access to affordable electricity – even those from the poorest backgrounds and communities. Participants stated that Municipalities have also conducted regular awareness programmes to educate residents on safety, reporting the theft of electricity, the consequences of connecting electricity illegally, and referring electricity theft to the municipal court and the arrests of perpetrators, but have indicated that charges are often dropped due to a lack of tangible evidence and the low fines imposed.

6.6 CONCLUSION

In this chapter, the findings were discussed in relation to the theoretical framework of this study as well as the relevant research in respect of electricity theft. Thus, from this current study, it can be concluded that electricity theft in Staram and similar informal settlements and urban areas are linked to various factors including poverty, unemployment, migration, and communities' unmet electricity needs. Participants shared their experiences and views on electricity theft in the selected area in Tongaat, and these findings were then discussed in relation to previous research and current Government preventative measures. The next chapter focuses on conclusions and recommendations based on this study's findings.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter presents the conclusions and recommendations based on this study by focussing on the confirmation of the study objectives. A summary of the findings is presented, followed by some suggestions for future research. These suggestions have been derived from the findings of this study. Recommendations to reduce electricity theft are also presented, based on the findings, analysis, and conclusions of this study.

7.2 CONCLUSION

This study was conducted to explore the causes of electricity theft in the Staram informal settlement. In order to achieve this aim, four objectives were formulated that underpinned the data collection efforts: (i) to explore the causes and (ii) assess the nature of electricity theft in the Staram; (iii) to examine the challenges of responding to electricity theft in Staram; and (iv) to evaluate the current preventative measures employed for mitigating electricity theft in Staram.

In order to achieve the objectives, a qualitative, exploratory, research approach was utilised that focus on the exploration of electricity theft by participants drawn from the Staram informal settlement. Staram is an informal settlement based in Tongaat, which is a small town established in 1945 in KZN. It is located about 37 km north of Durban and 28 km south of Stanger and is divided into three sections: Endliniyomlilo, Harry, and Eziweni. The study covered all three sections. Endliniyomlilo is already electrified, with about 12 houses having electricity, while the other two sections do not have electricity.

This study consists of 15 participants chosen on the basis that in-depth interview data from residents could be elicited to achieve all the objectives of the study and generate new findings that would contribute more knowledge regarding electricity theft in informal settlements. Five participants were selected from each of the three sections; they were chosen because they were the residents in the area of study as well as the victims and perpetrators of electricity theft. Convenience sampling, which is a non-probability sampling method, was used to sample the participants. The study used in-depth, semi-structured, face-to-face interviews to gather relevant

data. These interviews took approximately 45-60 minutes per sessions and allowed the participants to share their experiences and perceptions of the problem of electricity theft.

This study was informed by Beccaria's (1767) RCT, Shaw and McKay's (1942) SDT, and the Chicago School of Criminology's (1942) Economic Theory. RCT was used for understanding the manner in which people from the Staram informal settlement make their own choices for achieving their own desired interests related to stealing electricity. The SDT and Economic Theory were both used to investigate the factors that lead people into committing electricity theft.

The purpose of this study was to explore electricity theft in Staram, as this crime has negative impacts not only on human lives but also on the country's economy. Furthermore, innocent Pets and people are dying, and many residents fear for their, and especially their children's lives, due to the live wires that are left on public surfaces, on the ground, or hanging above their heads as a result of electricity theft. Residents of Staram were also concerned about the high cost of electricity bills for those who are paying their bills. Furthermore, this area was chosen for this study due to its reputation as being a 'hot spot' for electricity theft.

It is crucial that the issue of access to electricity in informal settlements is given urgent attention if electricity theft is to be effectively addressed. This study shed light on policies and energy regulation to assist policymakers, those dealing with electricity theft, and those responsible for the provision of electricity to informal settlements to have a clear understanding upon which they can base their decision-making.

7.2.1 Limitations

The researcher encountered some difficulties when participants gave inadequate information about the topic, so probing questions were used to clarify inconsistencies, gain relevant information, and encourage participants to say more. The targeted timeframe for conducting the interviews was delayed, as some of the interviews had to be postponed due to rain (the interviews took place outside) or the unavailability of the committee member responsible for guiding the researcher around the community.

Another limitation of the study was that the researcher was unable to find much literature in the libraries, and the information on the internet was also insufficient. The researcher found it hard to find recent sources – that's a legitimate limitation – but in many cases, especially in relation to the statistics or practical examples from news reports was mostly used to form the literature review.

7.3 MAJOR FINDINGS OF THE STUDY

The study found that unemployment, poverty, and the existence of informal settlements were driving factors in electricity theft. It was determined that the residents of Staram choose to stay in that area because it is much closer to industrial areas and, hence, more work opportunities. Participants claimed that they left their place of origin and relocated to the surrounding Durban area to seek a better living. Durban is believed to be a convenient city to start building a future in terms of jobs, housing, healthcare, and other basic living necessities. The city is friendly, politically and economically stable. The study also established that the numbers of informal settlements are growing daily and stealing electricity, especially via illegal connections, is extremely high and uncontrollable within the Staram area.

It was further found that culprits of electricity theft in Staram were well aware that electricity theft is a crime punishable by law, but, due to the fact that their gains are seen as greater than their losses related to electricity theft, they continued committing the crime. Even those who are directly affected by electricity theft through the loss of their loved ones seem never to give up. This is because whether individuals are involved in theft or not, either way is dangerous. Participants believed that regardless of involvement, people would still be negatively impacted by live wires lying around or electricity-related fires that could kill them. Similarly, participants believed that being in an informal settlement with no electricity was also dangerous as the darkness led to heightened crime at night due to the darkness, or fires from candles. Therefore, people cannot go out freely after dark to visit their relatives or friends. In order to undo such socially damaging issues, community members often feel that they are left with no choice but to steal electricity from power lines and provide electricity to their homes and streets.

Without the availability of electricity, children are forced to do their homework and read their books in the dark using candles they have no access to the internet, and nowadays everything is done electronically. Furthermore, the level of crime is very high as people are often robbed in the street on their way to and from work when there is no lighting. Participants were unhappy about their living conditions, but they had no other option because they were unemployed and overwhelmed by poverty. They stated that they could not afford to pay rent or buy a house. In addition, it was found that the participants were also unhappy with the government's service delivery. They believed that corruption was a cause for Government's failing to accomplish the project of electrifying the Endliniyomlilo section and that no further steps were taken to rectify that inconvenience. The study revealed, also that none of the participants enjoys stealing electricity

because they have suffered a lot of consequences due to electricity theft. Some of these consequences included people losing their lives or becoming disabled, damage to infrastructure such as supplying transformers, and fires caused by *izinyokanyoka*. However, participants continued staying in Staram because they were promised RDP houses. Moreover, they believed that the time that they have been waiting for promises to be fulfilled has been too long; leading them to take matters into their own hands.

Furthermore, participants highlighted how they wanted to work, but their problem was that, based on their residential situation, employers tended not to trust people from informal settlements; even schools had a problem with accommodating children from informal settlements. Participants were worried about their children's futures since they were doing their homework using candles and would sometimes fall asleep while busy with their homework. This is dangerous as it could cause fires. Additionally, much of schoolwork now demands a lot of internet research, but their children do not have access to the internet due to a lack of electricity.

The study established that participants believed that electricity theft will not stop in the area and that it was not only Staram where electricity theft occurs. The reality, according to interviewees, is that all informal settlement residents are involved in electricity theft because they do not have this needed resource that is critical for their survival in urban areas.

The participants had contradictory feelings about electricity theft. The majority believed that electricity theft does not affect Government because if it did, the government would have electrified their area a long time ago to prevent loss. Few of the interviewed inhabitants acknowledged that electricity theft as a criminal act punishable by law in South Africa, with most confirming that they would continue to steal electricity for as long as Government does not supply it. Indeed, dissatisfaction was high amongst the participants, and they suggested that the Government should listen to and address the factors that push them towards stealing electricity. Participants felt that the Government's listening to the community could aid in finding a permanent strategy to curb electricity theft, especially in informal settlements, where much of the major electricity loss occurs. They further believed that the municipality and the government are active in punishing the resident for electricity theft rather than focusing on the driving factors of it. From this broader discussion regarding the Government's role in electricity theft, it became clear that there was a lack of understanding amongst the participants with regard to the negative economic and social impact of electricity theft.

Generally, the responses amongst all the interviewees were similar and pointed in one direction: that they were concerned about getting a better life which consisted of proper houses with proper facilities, just as they were promised a long time ago. They also made a note of the fact that the law authorised them to be supplied with basic services to meet their living requirements. However, they believed that their human rights were defeated by their status of being poor; they even highlighted that wealthy people are respected and always have their voices recognised, while their (the participants and poorer people's) voices went unheard. Based on these perceptions, the selected participants believed that electricity theft was the right thing to do until justice is served to them. Thus, to combat electricity theft, this study found that the whole government structure needs to change in terms of service delivery and that such delivery needs to be improved to ensure equal provision for all in terms of basic resources. Most participants feel that they are being mistreated since Durban is characterised by advanced technology, yet they were still denied to access to electricity. As a result, residents often feel that it is futile for them to abide by laws that prevent them from accessing electricity. The study found that various preventative measures which are put in place are all designed electronically. However, when it comes to the most dangerous and popular way of stealing electricity, which is *izinyokanyoka*, the preventative measures are done practically through the regular removal of *izinyokanyoka*. However, this approach has proven to be a fruitless exercise because later the same day of the removal, illegal connections will be up and running again. Illegal connections and their removal have also resulted in protests and violence. In some cases, politicians promise to deliver electricity during the election campaigns, but when they are voted into power, nothing is delivered.

7.4 RECOMMENDATIONS

7.4.1 Two-way communication between Staram residents and ward councillors

From these findings, the researcher of this study recommends that effective two-way communication between Staram residents and ward councillors occur. Ward councillors should take communities' concerns to the right department (such as to the departments of health, labour, home affairs, electricity and water, or even SAPS) in order for matters to reach the government's attention. Ward councillors are the eyes and ears of the government, and they need to fully understand how serious this crime is and how much damage it has caused economically, socially, and physically through deaths, injuries, and infrastructure damages. This is important so that the government can meet people needs.

7.4.2 Unemployment and poverty

Regarding unemployment, the researcher suggests that ward councillors keep an updated list of unemployed residents to make sure that every in household there is someone that is employed because it was found that most households were unemployed and depended on government grant, if they were not working they were doing semi-skilled jobs. To fight poverty as this study found that the driving factor of this criminal activity was being crime motivated by poverty and unemployment the ward councillor should send the list to prospective employers. When job opportunities arise the government and employers should work more closely together to identify employable candidates or set up programmes that promote hiring people from informal settlements. Therefore, there is need to prioritise the local residents first before hiring people from other places because sometimes those hired people will be doing two jobs while others are unemployed. Consequently, this has a possibility to minimise corruption, for instance, job bribery. This could be helpful because each if household in Staram gains meaningful employment the community would be dominated by economically active people and the lifestyle of the whole community would be likely to change. That, in turn, could significantly minimise both criminal behaviour and levels of poverty within the community.

7.4.3 Councillors to be on the guard for those intending to settle informally

Due to the expansion of informal settlements, people tend to see any unoccupied land presented to them as an opportunity to simply go and build their shacks there. However, later on, after the shacks exist, they find out that the piece of land is restricted from any building and, as a result, they will not gain any access to services because their community is not legally recognised. In response, residents of these informal settlements refuse to leave and start engaging in electricity theft. Other issues occur in that many such residents may begin demanding to be relocated or to gain access to proper houses – a thing which would not have been part of the government’s initial budget. Therefore, in case, Eskom needs to equip the ward councillors on how deep electricity theft is and as to what extent it negatively has upon the country economy and in humans lives. In urban areas mostly the vacant lands belong to municipalities so in this matter the councillors need to advise the wards committees to inform the local municipalities if ever they see people cleaning and preparing to build houses in a vacant before they even start building the shacks.

7.4.4 Government to impose harsh sentences to perpetrators of electricity theft

Electricity theft is being treated as a culture in informal settlements, the researcher suggests that teaching pupils as early as when they are in the foundation phase about the consequences of electricity theft could also help. Electricity theft is not a victimless crime. The consequences of this serious crime include: the energy losses suffered by Eskom and municipalities contribute to increased electricity tariffs; higher prices of electricity further contribute to higher prices of other basic requirements like food, transport, and other consumer goods; and the serious injury or death of innocent parties. Therefore, Government together with Eskom must intervene to electricity theft- there must be more conviction, harsh sentences and higher fines towards the culprits in order to fight this theft. Justice must be served on those who steal electricity so that people will treat electricity theft as seriously as any other criminal offences.

One participant in this study confirmed that she had an electricity meter box inside her home for around two years and had never bought an electricity card. Therefore, any proposed modifications and initiatives taken by the electricity department, together with Operation Khanyisa, in an effort to overcome electricity theft needs to take corruption into consideration, and the court of law should act decisively in this regard. Proposed sentences and fines should be harsh and should apply to both ‘ordinary’ (citizen) culprits and internal electricity employees who collect bribes.

7.4.5 Future studies

In order to address gaps in this current study and better expound on areas highlighted, the following research areas are recommended for future researchers. The current study found that people had more knowledge about the negative physical impacts of electricity theft than they did on broader impacts, so future researchers should focus more on how electricity theft affects South Africa’s economy and social context. Future studies should also better clarify the benefits and consequences of an economically unstable country and the role electricity theft plays in economic instability. Such research may help to shape people’s mind sets about the severity of electricity theft. Future researchers should also attempt to fill the gap related to illegal electricity connections because this was found to be the main form of electricity theft, but it is also the only *izinyokanyoka* that does not have an electronically based preventative measure in place. This lack of technologically aided prevention in terms of illegal connects may be one of the reasons why the Government is failing in the fight against electricity theft; however, the current study has not confirmed any such determination.

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ANNEXURES

ANNEXURES A: COUNCILLOR PERMISSION TO CONDUCT RESEARCH



Councillor

Mezzanine Floor Shell House
Cnr. Anton Lembede & Samora Michell Street, Durban, 4001
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isibeli6

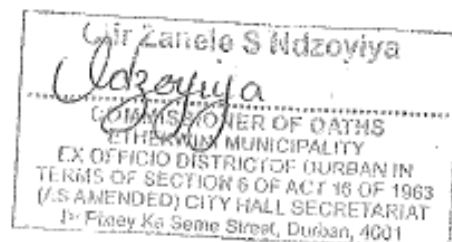
Ward 61
Cllr Z.S Ndzoyiya
083 928 7229 / 031 322 1681

To whom it may concern

This letter serves confirm that Khwela Hlengiwe I.D NO. 890412 0917 088 a student from Howard College was granted permission by me councillor Ndzoyiya to do research on Electricity theft within ward 61 of Tongaat Staram area, as part of her assignment.

Your co-operation will be highly appreciated.

Yours faithfully
Cllr Z.S Ndzoyiya



ANNEXURES B: REQUEST FOR PERMISSION TO CONDUCT RESEARCH



Name of the Researcher: Hlengiwe Khwela

Cell: 0834392685; email Address: hlengiwe.khwela89@gmail.com

Name of supervisor: Ephraim Kevin Sibanyoni

Cell: +27622276887; email address: eksibanyoni@gmail.com

Department: Criminology and Forensic Studies

Research Topic: An Exploratory Study on electricity theft in the Saram informal settlement, Tongaat in Kwa-Zulu Natal Province.

Request for Permission to Conduct Research

I am Hlengiwe Khwela, a student at University of Kwa-Zulu-Natal (Howard Collage) doing my Master's degree in Criminology and Forensics studies. I am asking a permission from you to allow the Tongaat residents to take part in my study, because this will help the researcher to understand the nature and the effects of electricity theft in Tongaat. This study aim's to explore the causes of electricity theft in Saram informal settlements Tongaat.

The researcher will be gathering data and sample by audio-recording and all the information that will be collected from the participants will be treated with confidentiality, anonymity and informed consent will be provided to the participants both male and females. The sessions will take about 60 minutes maximum. I would appreciate if you would give me this opportunity to expand my knowledge on eletricity theft, as it has a negative impact on the local municipality, human lives as well as the economy. This research study is purely for academic purposes only.

Thank you, I am looking forward to receive a positive response

Researcher: Miss Hlengiwe Khwela (Masters Candidate)

Handwritten signature of Hlengiwe Khwela, followed by a dotted line for a printed name.

Supervisor: Mr Ephraim Kevin Sibanyoni



ANNEXURES C: RESEARCH APPROVAL LETTER



28 November 2017

Ms Hlengiwe Khwela (217078826)
School of Applied Human Sciences – Criminology & Forensic Studies
Howard College Campus

Dear Ms Khwela,

Reference protocol number: HSS/1788/017M

Project title: An exploratory study on electricity theft in the imona Informal Settlement, Tongaat in KwaZulu-Natal Province

Approval Notification – Full Committee Reviewed Protocol

With regards to your response received on 26 November 2017 to our letter of 01 November 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

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 Shamila Naidoo (Deputy Chair)

/ms

Cc Supervisors: Mr EK Sibanyoni
Cc Academic Leader Research: Dr Jean Steyn
Cc School Administrator: Ms Ayanda Ntuli

Humanities & Social Sciences Research Ethics Committee

Dr Shanuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54051, Durban 4000

Telephone: +27 (0) 31 280 3587/8350/4557 Facsimile: +27 (0) 31 280 4609 Email: hsr@ukzn.ac.za / shs@ukzn.ac.za / mt@ukzn.ac.za

Website: www.ukzn.ac.za



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ANNEXURES D: INFORMED CONSENT LETTER



School of Applied Human Science,
Collage of Humanities,
University of Kwa-Zulu Natal,
Howard Collage Campus,

INFORMED CONSENT LETTER

My name is Hlengiwe Khwela; I am a Masters student in the school of Applied Human Sciences in the discipline of Criminology and Forensic Studies. I am studying at the University of Kwa-Zulu Natal Howard Collage Campus, South Africa.

I am interested in exploring the causes of electricity theft in the Staram settlements Tongaat, the entire process of the disciplinary route to combat electricity theft in Tongaat

Please note that:

- Your confidentiality is guaranteed as your inputs will not be attributed to you in person, but reported only as a population member opinion.
- The interview may last for about 45 to 60 minutes depending on your preference.
- Any information given by you cannot be used against you, and the collected data will be used for purposes of this research only.
- Data will be stored in secure storage and destroyed after 5 years.
- You have a choice to participate, not participate or stop participating in the research. You will not be penalized for taking such an action.
- The project is designed to gather information on the effects of electricity theft in Tongaat.
- Your involvement is purely for academic purposes only, and there are no financial benefits involved.
- If you are willing to be interviewed, the interview will be done in the form of the following: Audio equipment (audio)

I can be contacted at: Email: hlengiwe.khwela89@gmail.com/217078826@stu.ukzn.za

Cell: 0834392685

My supervisor is Mr. Kevin Ephraim Sibanyoni who is located at the Department of Criminology & Forensic Studies, Howard College of the University of KwaZulu- Natal.

Contact details email address: eksibanyoni@gmail.com

Cell: +27622276887

You may also contact the Research Office through:

P.Mohun

HSSREC Research Office

Tell: 031-260 4557 E-mail: mohump@ukzn.ac.za

Thank you for your contribution to this research.

DECLARATION

I (Full names of participant) hereby that the consents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire

SIGNATURE OF PARTICIPANT

DATE

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