



**AN INVESTIGATION INTO THE CHALLENGES
FACING THULAMELA LOCAL MUNICIPALITY
WITH REGARD TO THE SUPPLY OF ELECTRICITY**

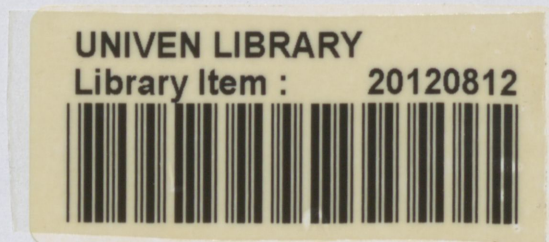
BY

AZWINNDINI SALMINAH MAGORO

UNIVERSITY OF VENDA

2011

Supervisor: Prof. M.P.Khwashaba





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MUNICIPALITY WITH REGARD TO THE SUPPLY OF ELECTRICITY**

BY

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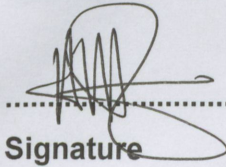
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2011

DECLARATION



I, AZWINDINI SALMINAH MAGORO student of the University of Venda hereby declare that the dissertation for the degree of Masters in Public Management at University of Venda hereby submitted by me, has not been submitted previously for a degree at this university or any other university; that it is my own work in design and execution, and that all reference material contained therein has been duly acknowledged.


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Signature

21.02.2012
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Date

DEDICATION

This study is dedicated to the Almighty God who gave me strength and wisdom to accomplish this study, to my late father **Phillip Jereman Magoro** and my lovely mother, **Sophy Khakhu Magoro** for parental inspiration, care, love and unconditional support to become what I am today. This study should serve as a motivation to my two children, **Aluwani** and **Muwanwa** that I may become their role model.

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- My supervisor, mentor, lecturer Prof. M.P Khwashaba for his tireless support, critical evaluation and supervision throughout my studies for this mini-dissertation.
- My lecturers, Mr R.S Nembudani, Mr M Nekhavhambe, Advocate R.L Maluleke, Dr. A.L Marule and Dr. N.J Vermaak who devoted their entire time during my study period.
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- A special thanks to Dr. A.L Marule for editing my dissertation.

ABSTRACT

This research was initiated and undertaken in 2011 as an attempt to address the problem of electricity in Thulamela Municipality, Limpopo Province, and RSA. The aim of this research was to investigate the challenges facing Thulamela municipality with regard to the provision of electricity.

An in-depth study of literature dealing with research methodology was undertaken. This was meant to determine suitable research methods for this study. Both quantitative and qualitative research methods were used. The findings from the empirical research (interviews, interviews schedule, questionnaires and focus group interviews) were fully substantiated by the literature review.

In view of the findings of the research, it became clear that there are challenges of electricity provision in Thulamela Municipality. In view of the above it recommended that the Thulamela Municipality must improve the management and provision of electricity and for that matter the municipality officers must ensure that electricity vending machines are at all times functional. In order to speed up the entire process of the maintenance of the machines they may be contracted to service providers whose service level agreement will determine their ability and continued contract. The shortage of electrical power points and their accessibility must be addressed through the acquisition of more machines and further ensure that they are located within a walking distance. The damage that is caused to electrical appliances owing to electricity cuts must be prevented to avoid losses to the community.

The environmental management issues raised need to be taken into consideration. Infrastructure provisioning, management and maintenance need serious attention. The control and regulation of the electricity distribution system in the Thulamela Municipality need to must be improved. Through this research, the existing resources necessary for the development of the community shall be unlocked in order to improve the quality of life, especially for the most poor and marginalized section of the community.

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TITLE	Page No
MDG Millennium Development Goals	(i)
ODA Overseas Development Assistance	(ii)
CALS Centre for Applied Legal Studies	(iii)
FBE Free Basic Electricity	(iv)
SPSS Statistical Package for Social Sciences	(v)
SADC South African Development Community	(vi)
SAPP South African Power Pool	(vii)
DME Department of Mineral Energy	(ix)
MEC Mineral-Energy Complex	1
SECC Soweto Electricity Crisis Committee	1
NER National Energy Regulator	2
NERSA National Energy Regulator in South Africa	3
SANCO South African National Civic Organisation	5
SHS Solar Home Supply	6
JIPSA Joint Initiative on Priority Skills of South Africa	6
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1.1. Introduction

When the democratic Government was elected into power in 1994, the dawn of democratic government in South Africa ushered in the development and restructuring of the country holistically. There was a need for a new national system to correct the past injustices by means of providing better life for all as enshrined in the Freedom Charter, the provision of basic needs to all citizens who stay in South Africa. Section 152 of The Constitution of the Republic of South Africa 1996 gave mandate to the municipalities to deliver services to all citizens, meaning that they have the responsibility to make sure that all citizens are provided with services to satisfy their basic needs irrespective of being in urban or rural areas. Since the municipalities are the sphere of government at the local level, they have obligations to make sure that the citizens in all areas are provided with at least basic services they need, of which electricity and gas supply is one of them.

The White Paper on Local Government (1998:111) stipulates effective and efficient use of resources being the most policy objective to all municipalities for accelerating access of the poor to basic services and hoe this should be rendered in a most convenient and efficient manner. Despite the existence of the *Constitution*, the *White Paper on Local Government* as well as the government policies, there are complaints of poor and non-delivery of basic services to the citizens of which electricity is one of them.

Thulamela Municipality citizens are one of the municipalities in Vhembe District which is composed of 38 wards. Amongst these wards, there are still villages without electricity. The reason being that, Thulamela municipality does not have a license for connecting electricity to its citizens. The aforementioned challenges by the municipality hinder the provision of electricity to its citizens on time.

Lack of electricity supply encourages the citizens to depend on firewood, old shoes and empty cartoons as their source of energy for cooking purposes. Gas stoves, candles and paraffin lamps are also used by families. Lack of electricity supply increases the rate of deforestation by the citizens as their only source of energy, of which is totally against the policy of the Department of Environment Affairs and Tourism.

1.2. Background of the study

Most Africans including those in the Southern sub-Sahara region face major challenges in trying to achieve their development and social obligations because of serious lack of modern energy services. Electricity access clearly demonstrates this deficiency because it is only 17% for sub Saharan Africa as a whole and less than 5% in rural areas (Davidson & Sokona, 2002). This situation needs major changes, not only because of development demands but for the region and its sub regions to be competitive with other developing regions of the world.

Another area of regional concern is the strong links between modern energy service provision and poverty reduction in the region. For the region to achieve the Millennium Development Goals (MDG) as agreed to at the WCSD held in Johannesburg in 2002, it needs substantial increase in modern energy service provision, especially affordable, reliable and adequate electricity. Improving on the current high infant mortality, low life expectancy, and high illiteracy and

fertility rates of the region (World Bank, 2003) will require substantial electricity provision, particularly for the poor who cannot afford these services.

Providing electricity to the poor in Southern Africa, to which this study is restricted poses unique policy challenges. Although the sub-Saharan region has abundant fossil and renewable energy resources, exploiting these resources remains a daunting task because of major technological, institutional and financial obstacles, but financial obstacles remain the most important. Inadequate energy investments, an underdeveloped downstream energy sector and poor management are some of the barriers, and of which the poor are the most affected. Furthermore, overseas development assistance, (ODA) which has been traditionally used by many countries in the sub-Saharan region on pro-poor programmes, is dwindling. However, in recent times there has been call from both donors and recipients for new approaches to ODA programmes including those of energy (Davidson and Zheng, 2003:67).

In South Africa poverty strongly differences is linked to the wide disparities of income levels of different racial groups. In general, the rural areas are far more impoverished than urban areas, mainly as a result of the past system of sectarian development defined by race. South African government defined minimum standard of living as ZAR 709 (USD 273) in 1990, which was equivalent to about USD 9/day using the 1990 exchange rate. In 2002, ZAR 800 which is equivalent to USD 2.54/day was used to describe poor households. This clearly shows that using USD 1/day as baseline will lead to discrepancy in the analysis (ESMAP, 2000:89-99).

1.3. Statement of the problem

Section 152 of the Constitution of the Republic of South Africa of 1996 gave mandate to the municipalities to render the services to their citizens in order to meet the basic needs of the local citizens. The White Paper on Local

Government (1998:11) eludes 'effective and efficient use of resources' as one of the policy objectives for all municipalities in order to increase access of the poor to basic services. Section 153(a) of the Constitution of the Republic of South Africa of 1996 states that a municipality must structure and mandate its administration and budgeting and planning processes to give priority to the basic needs of the community' including electricity whilst the White Paper on Transforming Public Service Delivery (1997:11) emphasizes Batho Pele principle which promotes service access that must be rendered in a convenient and efficient manner.

Thulamela municipality is experiencing low socio-economic development in areas where there is no electricity. Most of the developers and investors lose interest to start their businesses in areas without electricity. With the abovementioned challenges, the study will focus on how Thulamela municipality can improve the provision of electricity in an effective and efficient manner and which strategies can be applied in order to have successful service delivery in the Thulamela municipality. The study will focus on the challenges in Thulamela Municipality with regard to the supply of electricity namely: policy uncertainty, planning confusion, poor coordination, inadequate maintenance or negligence, vandalism and theft of electrical infrastructures, mushrooming of villages and lack of financial resources. Communities in Thulamela Municipality do not have access to running electricity in their homes. The vulnerable groups are mainly women and children who have to travel long distances to fetch wood for energy (In Mountains and forestry) spending inordinate amounts of time and energy at the expense of other family activities, education and productive work. This situation contributes to perpetuating poverty in the communities.

1.4. Research objectives

1.4.1. General Objective

- The general objective of the study is to investigate the challenges facing Thulamela municipality with regard to supply of electricity

1.4.2. Specific Objectives

- To identify the challenges experienced by the communities without electricity.
- To identify the challenges facing Thulamela municipality with regard to the supply of electricity to its citizens.
- To assess the impact of backlogs of electricity supply in Thulamela municipality.
- To establish the reasons why Thulamela municipality has a high rate of backlogs with regard to electricity to its citizens.
- To recommend ways in which Thulamela municipality can accelerate the supply of electricity to its citizens and to reduce backlog.

1.5. Research questions

- What challenges are posed to the municipality by communities without electricity?
- What challenges does Thulamela municipality face with regard to the supply of electricity?
- What are the impacts of electricity backlogs of electricity supply in Thulamela Municipality?

- Which strategies can Thulamela municipality use to accelerate the supply of electricity?

1.6. Hypothesis

- The challenges faced by the municipality results in the municipality failing to provide electricity to its citizens.
- Mushrooming of the new villages needing electricity make the municipality to fail to stick to its plan.
- Lack of resources hinders the municipality to render its services to the citizens on time.
- Lack of communities involvement results in local municipality to have problems of service delivery.

1.7. Significance of the study

The study will add to theoretical framework on challenges that municipality in Republic of South Africa generally is experiencing. It will provide strategies to speed up the supply of electricity to its communities. The study will enhance the skills and knowledge to the managers on dealing with electricity shortage. Through this study, Local Economic Development will be stimulated if the strategies suggested in this study are implemented, meaning that there will be job creation, poverty alleviation as well as the improvement of the infrastructures for the entire communities. Electricity supply will also stimulate Small Businesses into the communities. The standard of living will also be raised. The rate of deforestation will also be limited because communities will connect to electricity. There will be an opportunity for communities to learn new basic skills.

1.8. Delimitation of the study

Thulamela municipality is one of the four municipalities that fall under Vhembe District. It is composed of 38 wards most of which are under the control of traditional leadership. The study will focus on the areas which face challenges in Thulamela municipality with regard to the supply of electricity.

1.9. Limitation of the study

The researcher may encounter problems when collecting information from the respondents. Time frame for collecting information may be another problem due to the fact that Thulamela municipality is big and is also composed of 38 wards. Most of the affected communities need to be visited for observation purposes. Negative responses may arise from Thulamela Municipality officials. To compile the documents for questionnaires and to be transport to the affected villages to collect data may be a serious limitation.

1.10. Brief summary of literature review

South Africa is one of the most energy intensive countries in the world. This energy intensity is due to reliance on coal for producing electricity and liquid fuels and because of the structure of the economy (Eskom, 2005:234). Cheap energy, especially low cost electricity, has been an emphasis of government and business throughout the industrialization of South Africa. The reliance on coal ties in with the concept of a minerals-energy complex (MEC), as a system of accumulation, which has influenced the structure of the South African economy. The dependence on cheap energy is still present. Important sections of government and business continue to emphasize the need for cheap energy. For

example, Eskom has committed itself to reduce the real price of electricity (Eskom, 2005:132).

Electricity supply in Southern Sahara

Electricity generation in the 13 countries that form the Southern African region is dominated by thermal generation, about 81% with hydropower accounting for around 15%, the remaining being nuclear. However the distribution of generation which is consumed within the region is largely skewed, with South Africa accounting for about 35 GW of the total 43.8 GW generated in 1997 and Zimbabwe 2.07 GW, the remaining 11 countries only 6.6 GW (USDOE, 2000:21). Also, coal that dominates power production is mainly produced by South Africa and Zimbabwe. Hence, studying the electricity situation in these two countries will cover over 80% of electricity production and use in the sub-Saharan region. A unique feature of the energy sector in the sub-Saharan region is the relatively active energy committee of the Southern Africa Development Community (SADC) (Eskom, 2003:14-26). This has led to many sub regional energy programmes such the Southern African Power Pool (SAPP) which will be discussed later. Access to electricity in the sub-region is very low except for a few countries as shown in fig.1 below. Only three countries have access to electricity significantly above the average for Sub Saharan Africa which is 17%, Mauritius, South Africa (Davis & Ward, 1995:234).

Integration of electricity supply

Local government in South Africa has undergone radical changes since the first democratic local government elections were held in 1995 and 1996. It is generally known that local government in South Africa was based on racial fragmentation. The new South Africa therefore has to go beyond purely representative democracy to address the inequalities of the apartheid era. (Republic of South Africa, 1999:78).

The Constitution of the Republic of South Africa Act 1996, envisages a complete transformation of the local government system. Subsequently, a policy framework has been developed to give effect to a new vision of local government. The White Paper on Local Government was passed in March 1998. It spells out the framework and programme in terms of which the existing local government system will be radically transformed. This culminated in the birth of the concept of developmental local government. Developmental local government establishes the basis of a system of local government which is centrally concerned with working with local citizens and ward communities in particular to find sustainable ways to meet their needs and improve the quality of their lives (Van Horen, 1997:43).

Developmental local government encourages public participation at the local level. One of the most powerful instruments by which the communities and groups become involved in local government affairs is through the ward committee structures and ward planning forums. The Municipal Systems Act, 2000 (Act 32 of 2000), makes provision for community participation. Ward committees are established in terms of section 17 (1) of the Municipal Structures Act, 1998 (Act 117 of 1998).

Grindle (2003:34) claims that the quality of governance, particularly local governance, became a popular consideration in discussions on improving public service delivery. Local democratic governance became more and more regarded as integral to good governance. The most commonly cited reasons advocating decentralisation is that, compared to a centralised system of governance, decentralisation contributes to good governance in three key interrelated ways. Firstly, it improves public sector responsiveness. Secondly, it improves public sector accountability; and thirdly it makes service delivery more efficient and effective. Each will be discussed briefly.

Under the apartheid system, which prevailed until 1994, development progressed on racial lines, and this pattern pervaded the energy industry. Consequently, the focus of electricity provision was on heavy industry, mining and white households which formed about 12 per cent of the total population. The ANC government that won the democratic elections held in 1994, made the provision of electricity to the disadvantaged, mostly blacks, that being the cornerstone of its development policy under the slogan 'Access to electricity for all'. This promise was perceived as *grid* electricity for all – including people in the remote areas of the country. The Energy White Paper released in 1998 (DME, 1998:12) provided a framework and guidelines for the Government to achieve national energy objectives, of which one was universal household access to electricity (with priority to the poor) while alleviating negative environmental impacts.

1.11. Definition of operational concepts

The following are some of the concepts used in the study, which necessitates better understanding of their relevancy.

- **Thulamela**

Thulamela is a Karanga word meaning a “place of giving birth”, a home of different cultures and traditions. The area’s indigenous inhabitants are the Vhavenda and Shangaans that forms the greatest percentage of population (Thulamela News, 2004:2).

Thulamela municipality was established in 2000 as one of the four municipalities that fall under Vhembe District Municipality. Its Geographical boundaries are forming Thohoyandou to Malamulele (Vhembe Voice: 2004: 1). Thulamela municipality is situated north of Kruger National Park at Punda Maria gate.

Vhavenda and Shangaanas were the original inhabitants of the area. It is the largest of the four local municipalities falling under Vhembe District and is characterized by its legendary places with beautiful mountains and vegetations that attract many western and local tourists (Thulamela News Letter, 2004:2).

- **Municipality**

Municipal Structures Act 117 of 1998 defines municipality as an organ of state within the local sphere of government consisting of political structures, office bearers and administration of the municipality. Municipality may also be used to refer to the local area that falls within a municipal boundary. Section 153(a) of the Constitution defines the role of a municipality in the sense that it must 'structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the communities (Annelise Venter et al, 2007:5).

- **Service Delivery**

A municipality is required to give effect to the provision of the Constitution and in so acting to: give priority to the basic needs of the local community; promote the development of the local community; and ensure that all members of the local community have access to at least the minimum level of the basic municipal services (Craythorne 2006:159)

This study refers municipality as sphere of government responsible for supplying electricity in the Thulamela communities on time.

For the purpose of the study, the term service delivery refers to Thulamela

- **Eskom**

According to Conradie (2004:73) Eskom is derived from the Afrikaans abbreviation ESKom (Electrisiteits Voorsienings Kommissie), which stands for Electricity Supply Commission established in 1922

This study refers Eskom as the service agent delivering electricity services in the Thulamela municipality.

- **Electricity**

Eskom pricing (Conradie, 2004:10) refers electricity as a form of energy occurring in negative charge particles. The flow of electricity that it consist of little particles like little balls pushed through a pipe (circuit) allow the transfer of energy causing electricity current to flow. The amount of electricity used by a particular piece of electrical equipment is measured in watts.

This study refers electricity to the electronic source of energy used for industrial and residential in the Thulamela municipal area.

- **Service Delivery**

Section 1 (2:12) of the White Paper on Public Service Delivery (1997) refers service delivery as an approach which puts pressure on systems, procedures, attitudes, and behavior within the Public Service and reorients in the customer's favour, an approach which put people first. White Paper goes further indicating that service delivery involves creating a framework for the delivery of public services which treat citizens more like customers and enables the citizens to hold public servant to account for the services they serve.

For the purpose of the study, the term service delivery refers to Thulamela municipality delivering basic services such as electricity to its citizens on time.

1.12. Organisation of the research

Chapter 1: Background of the study

This chapter outlines the introduction, statement of the problem, objectives of the study, hypothesis, limitation and delimitation of the study, clarification of the concepts proposed structure of the study.

Chapter 2: Literature Review

The chapter presents a conceptual overview of literature relevant to the theory. The literature on the Constitutional, policy and legislative frameworks were reviewed and an overview of historical background of the municipalities given.

Chapter 3: Research Methodology

The chapter will outline the research design and method used in the study. Different sources of research to access and collect the challenges facing Thulamela municipality with regard to the supply of electricity to its communities were used.

Chapter 4: Data Analysis and Interpretation

The information collected will be presented and analyzed in this chapter. The results obtained from the respondents studied and interpreted in accordance with the title of this study.

Chapter 5: Summary, conclusion and recommendations

This chapter provides a summary of findings on the impact of electricity supply service in the Thulamela municipality, conclusions and appropriate recommendations based upon the findings are made.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

According to Schulze (2002:21), a literature study is a systematic, critical analysis and a summary of existing literature that is relevant to the research topic. It involves reading an appropriate selection of available literature such as books, magazines, articles, dissertations and newspaper reports in which new events have been reported and opinions expressed on the matter under investigation.

When the new South African democratic government came into power in 1994, it had a role in transforming the apartheid municipalities in order to rebuild the local communities and environments into a democratic, intergraded, prosperous and non-racial society. The Constitution of the Republic of South Africa 1996, Section 151(1) states that, "The local sphere of government consists of municipalities which must be established for the whole territory of the Republic." Section 152 of the Constitution of the Republic of South Africa further stipulates the objectives of the local government as that which is "to ensure the provision of the basic services to the communities in a sustainable manner.

The new government made a promise to the people of South Africa that they would serve the people without discrimination, respecting the dignity of all and ensuring that the needs of the majority of the population, who had been disadvantaged in the past, are met efficiently and effectively (www.dpsa.gov.za).

This promise is unequivocally spelt out in the South African Constitution of 1996, which stipulates that the public service “must be governed by the democratic values and principles enshrined in the Constitution.

Due to the pressure from International Monetary Fund, the World Bank and external agencies demanding the reduction from the government expenditure as a means of reducing further indebtedness. Such demand affects different levels of the government nationally, provincially and locally. Municipalities at local levels receive a pressure to reduce their municipal expenditures. This in turn affects the performance of the municipalities in providing adequate services, including electricity connection into the communities on time (WDE, 1992:23).

2.2. Electrification situation in Thulamela Local Municipality

Villages in Thulamela Municipality (Fig.2.1) are found in the Limpopo province. It forms part of the far north region of the province. It is located on the western side of the Punda Maria gate. Its coordinates are 23°30`S and 29°30`S latitude and 30°30`E and 22°30`E longitude (Kabanda, 2001:16).

Thulamela Municipality, formally known as greater Thohoyandou-Malumulele is largest municipality in the Limpopo Province. Thulamela is a Karanga word meaning the place of giving birth. The ancient Thulamela settlement, which has been declared a National heritage site, is situated north of the Kruger National Park at the Punda Maria gate. The Vhavenda and Shangaans were the original inhabitants of the area. It was here where they developed strong trade links with trader from Middle East. The present day Thulamela is a home for people of different racial groups, cultures and traditions. It is a place of many legends with beautiful mountains and vegetation that are compelling for tourists to view. The area has coffee estates, timber plantations, tropical fruit stalls, arts galleries waterfall e.t.c (Vhembe Voice, 2009:6)

Administratively, Thulamela municipality is headed by municipal manager who also assisted by a team of department managers. The core functions of all local municipalities are administration, human resources, finance, community services and technical services. Thulamela municipality composed largely of rural areas. The service delivery in these areas is considered to be decidedly poor due to the fact that the villagers do not pay for services that they are receiving. It is, therefore, suggested that dwellers in the rural areas have to be educated to understand that they have to pay for services that they are receiving in order to enhance the delivery of services in their areas. No effective services can be delivered to the communities without them being paid for.

The climatic conditions of the two study area sites resemble some of the climatic conditions of the Vhembe district municipality. The climate of Thulamela municipality can be characterised as a semi-arid. Summer maximum temperatures average from 25⁰C-40⁰C. Winter maximum temperatures average from 14⁰C-25⁰C. The rainy season in the study areas extend from October to April, with the peak of precipitation taking place during January and February. The average annual rainfall under normal climatic conditions is 450-500mm. The difference in climate impacts on the distribution of energy supply in the Limpopo province (Kabanda, 2001:45).

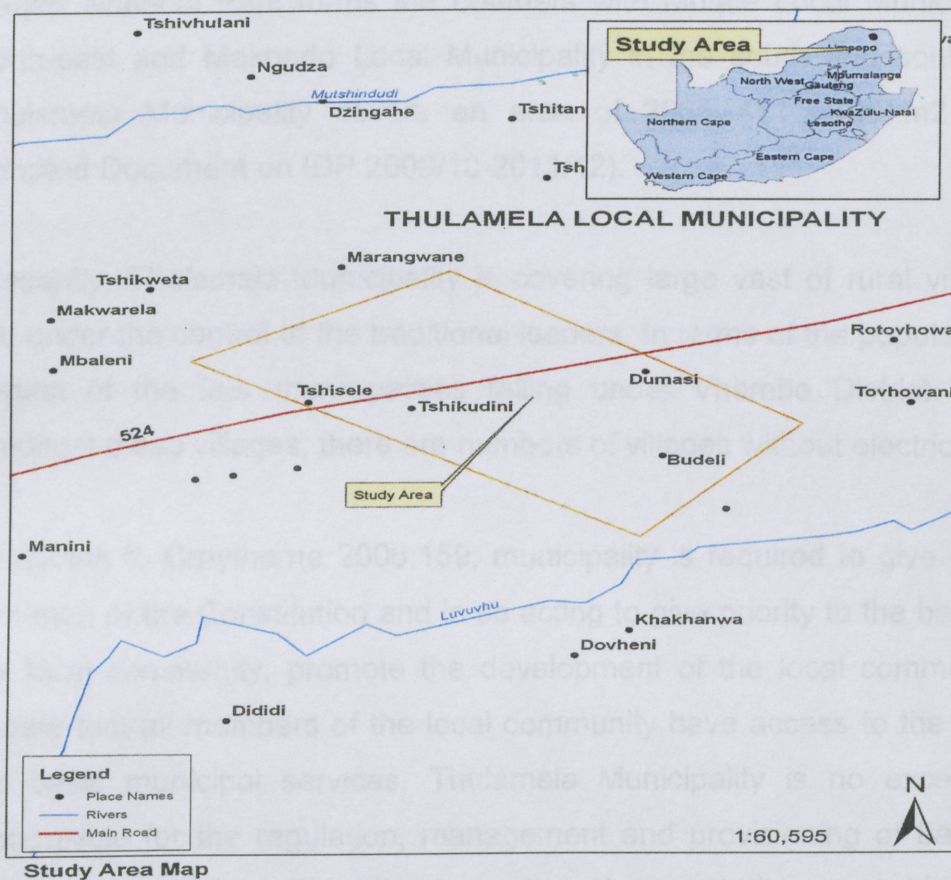


Figure 2.1: Geographical location of the study area

2.3. Background of the Thulamela Municipality

Thulamela Municipality was established in 2000 in terms of the Local Government Municipality Structures Act, 1998, (Act of 177 of 1998). It is the category B municipality. The name 'Thulamela' is a Karanga word meaning: the Place of Giving Birth. The ancient Thulamela settlement, which has now been declared a National Heritage site, is situated in the north of the Kruger National Park, at the Punda Maria gate. (Local Government Municipality Structure Act 2000).

Thulamela Municipality is one of the four local municipalities comprising Vhembe District Municipality. It is the eastern-most local municipality in the district. The Kruger National Park forms the borders with Mutale Local Municipality in the north-east and Makhado Local Municipality in the south and south-west. The Thulamela Municipality covers an area of 2966 411 970 km² (Thulamela Adopted Document on IDP 2009/10-2011/12).

Presently, Thulamela Municipality is covering large vast of rural villages which are under the control of the traditional leaders. In terms of the population, it is the largest of the four municipalities falling under Vhembe District Municipality. Amongst these villages, there are numbers of villages without electricity.

According to Craythorne 2006:159, municipality is required to give effect to the provision of the Constitution and in so acting to give priority to the basic needs of the local community, promote the development of the local community and to ensure that all members of the local community have access to the minimum of the basic municipal services. Thulamela Municipality is no exception to be responsible for the regulation, management and provisioning of basic services such as electricity within its respective demarcated geographical areas of jurisdiction in a sustainable manner.

As part of its overall strategy to alleviate poverty in South Africa, the government has put in place a policy for the provision of free basic of municipal services. In his address at the inauguration of the Executive Mayor of Tshwane on 10 February 2001, President Mbeki said: "The provision of free basic amounts of electricity and water to our people will alleviate the plight of the poorest among us while plans for the stimulation of the local economy should lead to the creation of new jobs and the reduction of poverty." ([file:///E:/Municipal Service Delivery. Htm](file:///E:/Municipal%20Service%20Delivery.%20Htm) 4/13/2010).

The government and Eskom have to acknowledge their mistakes, and are working to bring South Africa's electricity supply and distribution system back into balance. In January 2008, The Department of Minerals and Energy and Eskom released a new policy document, "National response to South Africa's electricity shortage"(South Africa/s energy supply-South Africa.info:2010).

South Africa's energy plan includes work on the country's electricity distribution structure, and the fast-tracking of electricity projects by independent producers. The new plan outlines the importance of reducing demand by pricing electricity correctly as well as efficiently and deterring, and if necessary outlawing, energy in efficiency.

Eskom aimed to reduce demand by about 3000 megawatts by 2012 and a further 5000 megawatts by 2025, through an aggressive campaign which will include promoting the use of solar-power geysers as well as liquid petroleum gas for cooking (South Africa's energy supply- South Africa. info: 2010).

Thulamela Municipality is assisting in the provision of electricity through partnership with the communities that are prepared to contribute funds towards electrification. The municipality's budget cannot alone address the whole backlog in the municipality due to the fact that most of the areas are within the rural villages where the communities do not pay revenue services to generate income. The Department of Mineral and Energy has contributed tremendously in the past years in ensuring that electricity is delivered to the communities, this however is only limited to 3000 connection per financial year for the financial years 2010/2011, 2011/2012, 2012/2013. The current commitment from DME will only deliver 9000 connection of the 46000 connections on the backlog hence financial assistance is required to accelerate the programme.(Thulamela Local Municipality –Accelerating Electrification Programme 2010).

According to the IDP Review: 2008/2009 TLM, the electricity backlog was standing at 60323 houses of which 280 houses were electrified by Eskom Northern Region on that year and 2000 were electrified by TLM through its partnership programme. During 2009/2010 financial year, TLM further electrified additional households through the partnership programme (Thulamela Local Municipality-Accelerating Electrification Programme:2010).

2.4. National Electrification Programme in South Africa

The South Africa National Electrification Programme (1994-99) was a government financed initiative. The programme was implemented by Eskom and the municipalities with the key objective of raising national electrification levels to about 66 per cent by 2001 with 46% rural and 80% urban (NER, 2002a). The targets of the programme were mainly the formerly disadvantaged and rural areas, and all schools and clinics. This implied providing electricity to an additional 2.5 million households. This programme provided the basis of looking at the electrification levels and rates to the poor of South Africa. The new connections were mostly extended by Eskom and the municipalities, but large scale farmers also connected their farm workers where necessary, but Eskom accounted for about two-thirds, while the municipalities only accounted for about 6% (Eskom, Republic of South Africa, 2004). However, there has been a slight drop in new connections which averaged around 450,000 households per year between 1994 and 2000 to 397,000 in 2001. The decline is mainly due to the drop in new connections by Eskom.

2.5. Characteristics of Developmental Local Government

In terms of the White Paper on Local Government (1998), developmental local government has four interrelated characteristics, namely:

- Maximising social development and economic growth;

- Integrating and coordinating;
- Democratising development; and
- Leading and learning.

The four characteristics of developmental local government, as stated in the White Paper on Local Government (1998), are further explained in detail below:

2.5.1. Maximising Social Development and Economic Growth

The powers and functions of local government should be exercised so as to maximise the impact on the social development of communities, particularly in meeting the basic needs of the poor and stimulating the local economy. Through its traditional responsibilities (service delivery and regulation e.g. electricity), local government exerts great influence over the social and economic well-being of local communities (ISES, 2001:65).

The closeness of local government to the community makes it an ideal agent of social and economic growth. Local government is responsible for rendering quality services and should redistribute wealth through its preferential supply chain policies and a progressive taxation policy. Furthermore, local government employs many people, thereby providing jobs as well. Local government is also strategically located to boost Black Economic Empowerment and facilitate the development of small businesses. Aspects of Local Economic Development (LED), therefore, become important for local government (White Paper on Local Government, 1998).

Local government can also promote social development through arts and culture related activities, the provision of recreational and community facilities, and the delivery of aspects of social welfare services. The empowerment of marginalised and disadvantaged groups is a critical contribution to social development. Municipalities should also seek to provide an accessible environment for disabled

people, so as to facilitate their autonomy and independence. Through their international relations programmes, a number of municipalities are engaged in cultural exchanges as part of social development through art and culture. This assists local groups in obtaining exposure and developing their capacity. Some local artists exhibit at international exhibitions, competing and comparing favourably with international artists. This could potentially also boost economic growth and tourism (White Paper on Local Government, 1998).

2.5.2. Integrating and Coordinating

The White Paper on Local Government (1998) states explicitly that developmental local government must provide a vision and leadership for all those who have a role to play in achieving local prosperity. Poor co-ordination between service providers could severely undermine the developmental effort. Municipalities should actively develop ways to leverage resources and investment from both the public and private sectors to meet developmental targets (Cowan, 2003:12-45).

The desired co-ordination and integration can be achieved through Integrated Development Plans (hereinafter referred to as IDPs), which constitute powerful tools for municipalities to facilitate integrated and co-ordinated service delivery within their localities (CALs, 2003:43-45). Local government should therefore establish coordinating structures, systems and processes to regulate joint planning. Sector departments from both national and provincial departments, parastatals, the private sector and other stakeholders can and should play a meaningful role in IDPs.

It is clear that the establishment of sustainable and liveable settlements depends on the co-ordination of a range of services and regulations, including land-use planning, household infrastructure, environmental management, transport, health and education, safety and security, and housing. Municipalities therefore need to

work closely with other spheres of government and service providers and assume an active integrating and coordinating role (White Paper on Local Government, 1998).

2.5.3. Democratising development, empowering and redistributing

Municipal councils play a central role in promoting local democracy. In addition to representing community interests within the Council, municipal councilors should promote the involvement of citizens and community groups in the design and delivery of municipal programmes, with specific emphasis on the participation of marginalised sectors of the communities and excluded groups in community processes. These marginalised sectors include residents who are not receiving services, women, youth, the aged and the physically challenged. Appropriate systems, structures, policies, strategies and resources should be made available for this purpose (White Paper on Local Government, 1998).

2.5.4. Leading and learning

Local government operates in a global and ever-changing environment. New and unique challenges arise from time to time, and they need to be addressed. Furthermore, local government needs to be sustainable to fulfill the principles of development in local government. Local governments should, therefore, be innovative and become learning institutions. Social and economic growth and knowledge management must become key issues. This should include investing in human capital, which also accommodates citizens (Basson, 2003:13-15).

New ways should be found to create sustainable economies and preserve the environment. Internal human resources, ward committees and councilors should be empowered so that all stakeholders are mobilised to build developmental institutions (White Paper on Local Government, 1998). Developmental local government requires that municipalities become more strategic, visionary and

ultimately influential in the way they operate. Municipalities have a crucial role as policymakers, as thinkers and innovators, and as institutions of local democracy. A developmental municipality should play a strategic policy-making and visionary role, and seek to mobilise a range of resources to meet basic needs and achieve developmental goals (White Paper on Local Government, 1998).

2.5.5. Developmental outcomes of local government

In terms of the White Paper on Local Government (1998), the key outcomes that developmental local government seeks to achieve are as follows:

- **Provision of household infrastructure and services**

Local government renders direct services that are needed for survival. This includes the provision of infrastructure such as roads, water, electricity and sanitation. Apart from the fact that basic services are a constitutional right, these services are needed to promote the well-being of individuals (Borchers *et al*, 2001). Basic services should be provided and extended to those people who were either denied these services before, or who are still not receiving them. National government, job creation initiatives and the establishment of community based contractors who assist in service delivery can serve to expand and improve service delivery (White Paper on Local Government, 1998).

- **Creation of liveable, integrated cities, towns and rural areas**

Apartheid separated communities along racial lines, thereby creating segregated communities. Spatial structures in South Africa are characterised by townships being located far away from towns and places of work. This is the reason why the development of a new integrated Spatial Development Framework is so crucial. An integrated Spatial Development Framework enhances social and economic

development, and reduces community costs (Pauw *et al*, 2002). Unfortunately, the poor and the previously disadvantaged are particularly affected by the existing spatial structures. Integration must ensure affordable mobility between work, home and recreation; combat crime, pollution and congestion; and promote the participation of the previously disadvantaged in the social and economic life of a municipality (White Paper on Local Government, 1998).

Rural areas should benefit from rural development programmes that seek to create liveable environments. Forced removals and the homeland policies of the apartheid government aggravated poverty in rural areas, which needs to be rectified through developing and investing in these areas (Schramm, 1991:34-36). Sustainability should include environmental sustainability, as an integral part of integrated development plans (White Paper on Local Government, 1998).

- **Local Economic Development**

Local government plays an important role in developing local economies, thereby creating jobs. Stimulating the local economy should start with rendering quality cost-effective services and providing an environment favourable for investors. Regulations and policies should not be rigid, but flexible. Supply Chain Management Policies and the Expanded Public Works Programme can all assist in job creation (NER, 2003:12). Municipalities should expedite and simplify processes and procedures around the evaluation and approval of tenders, building plans and rezoning applications. Furthermore, user-friendly one-stop shops for both customers and investors should be established. Incentives can also be offered to attract investment and increase competitiveness. Investment in human capital should be given priority, because the availability of local skills plays an important role in attracting potential investors (<http://www.dplg.gov.za>).

2.6. Challenges of electricity supply in South Africa

Electricity consumption and demand growth in South Africa has been higher than expected because of higher economic growth rates. Annual peak demand has grown on average by just more than 3.6% a year since 2000. Current peak electricity demand is actually lower than that predicted in Eskom's Integrated Strategic Electricity Plans, which were prepared in 2001, 2003 and 2005 (<http://developsouthafrica.blogspot.com/2007.03>).

- **Main causes of recent electricity supply failures are:**

2.6.1 Policy uncertainty

Policy uncertainty between 1998 and 2004 inhibited and slowed investment. During this time there was a great competition between Eskom and private investment. In 2001, Eskom was prohibited by the government from building new generation capacity. This resulted in making the investment planning to be behind the schedule by 18 months. The policy uncertainty also delayed the re-establishment of dedicated project teams and departments in Eskom to manage the new capacity expansion programmes (<http://developsouthafrica.blogspot>).

2.6.2 Poor co-ordination

There is lack of co-ordination and integration of the different electricity planning, investment decision-making, approval and procurement processes between Eskom, National Energy Regulator of South Africa (Nersa). Emerging risks are also evident in the licensing delays by Nersa and the legal requirement for ministerial approval for any deviation from the official Nersa plan, which is already out of date (<http://developsouthafrica.blogspot.com>).

2.6.3. Confusion in Planning

While there has been a great deal of planning, some of the earlier planning assumptions were wrong. The estimates for existing generation plant availability were too optimistic. It was assumed that municipalities would be able to contribute more generation capacity than is currently available. The assumed cost of unsaved energy was unrealistically low. And planning was constrained by applying too low a reserve margin (10% compared with a more acceptable 15%). Together these faulty assumptions have resulted in planned capacity additions that are 18 months to two years too late (FFC, 2002:34-36).

2.6.4. Inadequate maintenance or negligence

Inadequate maintenance or negligence may have played a hand. An investigation by Nersa concluded that, in the case of the Western Cape outages, there was negligence on the part of responsible Eskom personnel, maintenance procedures and remedial actions were inadequate, and protection systems had been operated incorrectly (<http://developsouthafrica.blogspot.com>). Electrical network is presently facing considerable challenges. Electrical networks have been designed for the purpose of providing to the end consumer. The present electrical network is limited by the design and is unable to provide required development into smart grid (Fiil-Flynn, 2001:141).

Thale (2004:21) mentioned that constrain on existing energy generation capacity and social pressure to replace or carefully manage aged existing infrastructure are further challenges in the South African energy market. With global trends showing on increase in the cost of producing energy, access to funding for this purpose becomes a serious challenge. Eskom is thus called upon to ensure that a significant revenue injection is available in order to build programmes for electricity that can be supported.

Thulamela Municipality like many South African municipalities has its priority as speeding up community infrastructure with efforts to accelerate universal access to electricity. The demand for electricity for lighting has increased in all provinces with 80% of households in South Africa using electricity for lighting (Thulamela Local Municipality 2010:6). The challenges facing South Africa and Eskom will therefore also affect Thulamela Municipality. This is evident in the fact that the Municipality buys electricity from Eskom and supply it to those areas for which it is licensed by the National Electricity Regulator (NER) to do so.

This has a serious impact on the service delivery with regard to electrical connections. People who use candles and paraffin or any other source of energy are regarded as being

2.7. State of electricity systems

The event of January 2008, when the country underwent weeks of load shedding is still ringing in our minds. As a country we do not expect to go back to that situation. This task cannot be left to be a responsibility of one entity, be it Eskom or Municipality. Partnership approach is required between many stakeholders and must involve every citizen of this country (Eskom Distribution 2011:2).

Thulamela Municipality however is unable to provide electricity to its communities on time due to some challenges it is facing.

2.7.1. Mushrooming of new villages

South Africa is a developing country; Thulamela Municipality is no exception for development through IDP programme for the entire jurisdiction. Mushrooming of new villages is taking place at high speed. This makes it difficult for the municipality to provide electricity on time to its communities. Modern living without electrical energy would be unthinkable since most communities and countries rely on the use of electricity. People throughout the world use this resource in many different ways. For example, indoors - it provides electrical energy to homes for lights, telephones, refrigerators, radio and television sets. It

also provides heat for irons, stoves, kettles, geysers, etc. Outdoors, electricity provides lighting for streets and for signs, it runs alarms for banks, shops, police and fire departments (Christie, 1984:90-98).

2.7.2. Vandalism and theft of electrical infrastructures

A very serious concern is experienced with regard to the past, current and future continuation of vandalism and theft of electrical infrastructure. This has a serious impact on the service delivery with regard to electrical connections. People who use candles and paraffin or any other source of energy are regarded as being Unserviced (Mapako & Prasad, 2005:76).

2.7.3. Poor Coordination and Planning

Coordination is another problem that challenges the delivery of services to the people. Having realized the problem of coordination, government has since introduced the Integrated Development Planning, Intergovernmental Relations and Cooperative Government. All these initiatives are aimed at ensuring that there is a good coordination in terms of service delivery programmes in all spheres of government. For example these initiatives allow different spheres of government to share their business plans in order to gain their planning with what other spheres including parastatals such as Eskom, are planning in a particular community (DME, 2003:45).

2.7.4. Lack of Financial Resource

Lack of financial resource is one other fundamental problem that challenges the delivery of services to the people. No public institution or entity can provide goods and services to communities without having money available to cover its operational costs. If an entity such as municipality does not have a sustainable income, it cannot make service commitment or even purchase goods and

services. In practice, this means that municipalities have to generate money by raising taxes, levies, rates and service charges from the inhabitants within their municipal borders (Annelise Venter et al 2007:186). Thulamela municipality is composed of wards which are under the leadership of the Traditional leaders, of which it is difficult for the municipality to raise funds that will enhance service delivery of community' basic needs as enshrined in the Constitution of the Republic of South Africa of 1996 (DME, 1998:56-59).

2.7.5. Conflict of interests

Conflict of interest is another problem. This is the biggest problem facing South Africa as a developmental state. South Africa has a lot of development projects which are worth billions and billions of Rands however; this ends up in scandals that result from lack of professional ethics from public servants or municipal officials (CALs, 2003:56).

2.7.6. Poor Professional Ethics

The issue of high professional ethics flows from the South African Constitution. It is the first principle on the list of nine (9) that governs public management. Despite this principle, there still exists poor professional ethics in the Public Service and this has led to poor delivery of service, fraud and corruption. This results in a situation in which the Public Service is blotted with people who are not skilled, thus have wrong person on the right job. This situation is undesirable and has dismally failed the people of this country (Shabalala 2006:55).

2.7.7. Staff Retention

Levin (2006:3) argues that, staff retention is another problem facing the Public Service in terms of the shortage of skills. The Government often commits vast resources in terms of time, money and effort trying to develop its human

resources, in order to improve service delivery. However, the high staff turnover in government hampers such efforts. Staff retention is a serious challenge to the capacity of government to deliver. The problem is further exacerbated by the lack of flexibility in the administration of government remuneration policies. Line managers have revealed that it is difficult to retain “star” performers because they do not have the power to exercise their discretion to increase salaries and thereby curb the flow of skills from the public sector.

2.7.8. Lack of skills

Moleketi (2006;3) argues that, according to the Constitution Industry Development Board (CIDB), South Africa currently does not have enough engineers and artisans needed to support the large private sector capital project as well as governmental infrastructure projects. This situation is aggravated by the international demand for professionals, illustrated by the emigration of more than 1400 professionals. The number is increasing steadily. According to the CIDB, there are not enough engineers and artisans to meet the country's demand. Radical corrective action and capacity building on a large scale is required urgently. Hence the government introduced Joint Initiative on Priority Skills South Africa (JIPSA).

2.8. The key policy problems and challenges in the electricity sector as identified by government are:

- Approximately 40 per cent of all homes in South Africa, and tens of thousands of schools and clinics, are without ready access to electricity supply.
- The distribution sector of the industry is highly fragmented — with more than 120 municipalities that had less than 1,000 customers and more than 90 municipalities with annual revenues of less than ZAR 1 million resulting in low efficiencies, high costs, wide disparities in tariffs, and the problem of

financial viability among distribution entities. Also, the industry is experiencing high levels of non-payment and electricity theft, resulting in increasing arrears and payment defaults.

- The electrification programmes of most municipal distributors are constrained by difficulties in accessing financing. Hence, the need for higher electrification expenditure.
- Coal-based electricity generation results in significant pollutant emissions, with potential long-term effects on the environment.
- Major inefficiencies in the electricity sector, thus wasting scarce energy and capital resources.
- Although growth in electricity demand is only projected to exceed generation capacity around the year 2007, lengthy capacity expansion medium term strategies to be in place in order to meet the needs of the growing economy.
- While a number of the afore-mentioned challenges could stimulate inflationary pressures on prices, the government has to maintain the competitive advantage of low, stable and cost-reflective electricity prices.

2.9. The service delivery/cost recovery tension zone: poor realities on the ground

Despite the achievements in providing access to electricity made by the National Electrification Programme, for many poor people true access to electricity is a problem that goes beyond connectivity and ultimately depends on affordability. Often poor households are unable to reap the benefits of being connected to the electricity grid since they cannot afford even the minimum amount of electricity required for their basic needs. In addition to this, many poor people are burdened with high arrears, electricity cut-offs and poor service quality. This has triggered protests and activism campaigns by various community based groups such as the one of the Soweto Electricity Crisis Committee, which is campaigning for

better electricity service delivery to the poor and the introduction of more radical pro-poor policies relating to electricity provision.

2.9.1. Is there a legal right to affordable electricity?

There is no doubt that access to affordable electricity for all is a desirable development objective. Given the enormous social and economic benefits *derived from household electricity provision, the question can be asked, whether access to affordable electricity can even be qualified as a socio-economic right to which all citizens are entitled.* This question deserves particular attention since the South African Constitution of 1996 recognizes and spells out a number of socio-economic rights, some of which relate to basic services, such as the right to sufficient water as contained in Section 27 (1) (b) of the Constitution. Yet, the Constitution does not contain an express right to have access to electricity. According to the interpretative maxim "*expression unius est exclusion alterius*", the fact that certain socio-economic rights have been included in the Constitution probably rules out the possibility of reading into the Constitution other, non-enumerated socio-economic rights (CALS 2003: 3).

However, the Centre for Applied Legal Studies (CALS 2003:3) argues (in the context of the restructuring of the electricity industry) that certain pro-poor measures relating to the problem of affordable electricity can be derived from the constitutional right to equality. Not only does the right to equality require that policy choices are being made, which ensure that the provision of public goods occurs equitably in the sense that everyone is entitled to an equal standard of service provision (ibid.). In Section 9 (2) the Constitution contains a provision that is arguably relevant in the light of South Africa's legacy of unequal municipal service provision.

The provision states that the state is authorised to take “legislative and other measures designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination” (RSA 1996). Based on this provision the Centre for Applied Legal Studies (CALS 2003:3) argues that there should not only be no differential adverse impact on poor consumers, but also that “positive measures be taken to reduce the cost of electricity to those consumers”. This demand of active steps being taken to reduce electricity costs for poor consumers is not merely an academic suggestion. In fact, it reflects the fundamental demands of pro-poor activism groups such as the Soweto Electricity Crisis Committee, in their campaign for more affordable electricity and better quality of service delivery to poor people.

2.9.2. The Free Basic Electricity (FBE) policy

Whereas there has been good progress made towards the goal of “electricity for all” as far as electrification is concerned, the South African government realised that the increase in electrification would not be accompanied by meaningful levels of electricity consumption among poor households due to affordability problems (Mapako and Prahad 2005: 1). Hence, in delivery of its announced policy intent to provide free basic services (water, sanitation and energy) to poor households, the government introduced the FBE policy to address affordability problems related to energy, more specifically, electricity services (Mapako and Prahad 2005: 1). Municipalities, acting as Service Authorities, are responsible for the implementation of the FBE policy. For gridconnected households FBE means that they qualify for free 50 kW/h per month (approximately R 18), off-grid electricity users are subsidised with R 40 per month towards the R 58 monthly service fee (ERC 2004). The R 40 subsidy for off-grid users is paid directly to the service providers (ESCOs), meaning that households only have to make a cash-payment of R 18 per month.

Whereas the FBE subsidy paid to consumers is certainly a contribution to affordable electricity, there remain numerous problems related to the FBE policy. In the Ministerial foreword to the government notice introducing the FBE policy, the government claims that “conventionally, the average poor household does not consume more than 50 kWh of electricity per month” (foreword DME 2003), which is why the allocation of free basic electricity is set at exactly that amount. This is highly contested by consumer and activist groups, who claim that the 50 kWh are by far not sufficient to serve even the most basic needs of poor households. In their survey conducted in Soweto Fil-Flynn and SECC (2001: 17) established that the average monthly usage in poor households is more than ten times that amount, sometimes up to 600 kWh. Much of this due to insufficient insulation in poor people’s houses, thus increasing electricity needs for heating in winter. However, even for basic cooking and lighting the 50 kWh per month are hardly sufficient, which is the reason why many people with access to grid-electricity still use firewood or paraffin for cooking (Mapako and Prahad 2005: 2).

Flynn and SECC 2001, 10). Yet even where the unit-of is honoured, amounts are often unrealistic.

2.9.3. Service delivery quality – an unresolved challenge

Affordability is undoubtedly the key problem for poor households to truly benefit from electricity access in a way that improved the social living conditions and the welfare of individuals and communities. Directly related to the affordability problem are numerous other issues, which in sum, make the promise of quality service delivery for all an empty one for many poor people. Being unable to afford basic electricity needs often leads to a cycle of arrears, billing disputes, electricity cut-offs and illegal re-connections with negative impacts on poverty reduction on the one hand and causing consumer dissatisfaction to the brink of (local) political instability on the other hand.

Today's non-payments, as Fil-Flynn and SECC (2001, 11) claim, cannot anymore be linked to the 'culture of non-payment' and is simply a result of the real inability to pay. In fact, the majority of people try to make regular payment of bills and

2.9.3.1. Arrears

The inability to pay for their basic electricity needs has resulted in high arrears for many poor people. In their survey conducted in Soweto Fiil-Flynn and SECC (2001) established that average monthly bills in the sample households were between R 150 (summer) and R 500 (winter). Given the average income levels in Soweto and the need to provide for other basic needs such as food, water etc. these bills can effectively not be paid by many households. As a consequence, 89 % of the sample household in the above-mentioned study (Fiil-Flynn and SECC 2001: 10) had electricity arrears, 30% of them owing more than R 10.000, an amount that is effectively unpayable given the household incomes in the area. Interestingly, some of these arrears date back to the 1980s and the “rent boycotts” of the anti-apartheid struggle (Seekings 2000). Although it was agreed in negotiations with civics that Eskom would write-off half of all debt accumulated to June 1995, many residents claim that Eskom did not honour the writeoffs (Fiil-Flynn and SECC 2001: 10). Yet, even where the write-off is honoured, amounts are often so high, that re-payment of the remaining 50 % (and new arrears) is unrealistic.

It needs to be pointed out that, despite identical results (non-payment), the reasons for non-payment today compared to the reasons during the apartheid area, differ fundamentally. During the apartheid area inability to afford electricity might have played a role, however, it was not the main driver of the rate boycotts and the often cited “culture of non-payment” (Swilling 1998). In the times of the political struggle against the apartheid regime, non-payment of rates and service fees was a deliberate political tool, a means of protest against the policies of the apartheid government.

Today’s non-payments, as Fiil-Flynn and SECC 2001: 11) claim, cannot anymore be linked to the “culture of non-payment” and is simply a result of the real inability to pay. In fact, the majority of people try to make regular payment of bills and

arrears wherever their financial situation allows, but are unable to pay the full amounts of their bills or reduce the arrears with the low or unstable incomes that most people of poor households receive (Fiil-Flynn and SECC 2001: 11).

2.9.3.2. Service cut-offs and illegal connections

For many people the continuing inability to pay and mounting arrears eventually lead to electricity cut-offs by Eskom (or the local municipality where it is the provider). In the above-mentioned survey (Fiil-Flynn and SECC 2001) it was established that more than 60 % of households had experienced electricity cut-offs in the past year. Where residents are able to renegotiate payment with Eskom, electricity supply has eventually been reinstated, however, often electricity cut-offs lasted for months. For those who are not financially able to make payment arrangements with Eskom the cut-offs often lead into a cycle of worsening poverty. In order to meet their basic electricity needs people make illegal grid-connections. Interestingly, in about half of these cases, the illegal connection is offered by the same Eskom employee who had originally disconnected the resident, usually at a charge up to several hundred Rand (Fiil-Flynn and SECC 2001: 15). When these illegal disconnections are discovered by Eskom it leads to the permanent removal of electricity cables from the house by Eskom.

Once the cables have been removed, the price of reconnections is often impossible to meet for poor households meaning that they have to live permanently without electricity with adverse impacts on their living and welfare conditions. Negative effects named by poor people that had experienced cut-offs are that they are not able to cook food properly, that their personal hygiene is affected, that children cannot study properly and that the work load for women increases (Fiil-Flynn and SECC 2001). In addition the necessary increased use of alternative energy sources such as wood, coal and paraffin causes increases in health problems, particularly respiratory illnesses. Safety is also negatively

affected by the cut-offs, as Eskom employee purposefully leave electricity sub-station open in order to make a second income from illegal electricity connections (Fiil-Flynn and SECC 2001: 14).

Another response by Eskom and municipalities to the high rate of non-payment has been the installation of pre-paid meters in households. When using this system, consumers pay a certain amount of electricity pre-paid and load it on their meters for subsequent consumption. Whereas this allows for efficient monitoring of consumption and can contribute to energy savings, it also means that people are left without electricity once the pre-paid electricity units are used up. Since poor residents are often unable to buy enough pre-paid units for the month, they frequently end up having no electricity towards the end of the month. This has caused strong opposition against the installation and use of pre-paid meters and some protests have resulted in the deliberate destruction of the meters.

2.9.3.3. Billing disputes

The issue of electricity cut-offs is closely related to problems that residents experience with billing and customer care by Eskom. Many respondents who had experienced cut-offs claim that insufficient notice is given (i.e, they are not given a chance to pay or to try and negotiate a payment schedule) and that cut-offs happen even when bills have been negotiated or settled (Fiil-Flynn and SECC 2001: 12). Notices of cut-offs are printed on the electricity bill, often giving the resident just 14 days to reply. Apart from the very short notice before cut-offs, it is often the case that bills are not received regularly, making it difficult for consumers to be informed of their payment situation and their arrears. In response to this problem, Eskom claims that customers are responsible for collecting their bills at local Eskom depots if they are not delivered and are therefore responsible for knowing if their service is to be cut (Fiil-Flynn and SECC, 2001: 12). Whereas this is a rather unusual practice compared to service

and consumer care experienced in more affluent areas, it also needs to be questioned in relation to the short reply period of 14 days that is granted. If a consumer first has to wait and find out whether or not his bill is delivered and after coming to the realization that it will not be delivered has to go to the local depot to fetch it, it leaves little time, if any, to reply to cut-off notices and make possible payment arrangements with Eskom.

Another problem relating to billing disputes and insufficient consumer care is, that according to respondents in the study conducted by Fiil-Flynn and SECC (2001) the bills do not inform the consumer how to dispute the bill. Nor do the bills inform consumers of the existence of the National Electricity Regulator (NER) as a place to take their account disputes. Furthermore, cut-offs are often performed when consumers have already made arrangements for repayment and in some cases no notice is given prior to a cut-off (Fiil-Flynn and SECC 2001: 12). Poor consumers generally feel that Eskom staff has a negative attitude towards them and is unwilling to assist in billing disputes or even explaining the bills. It is this combination of inability to pay for basic needs and receiving poor consumer services that has sparked the ongoing protest against electricity cut-offs in the townships and the more recent wave of (sometimes violent) protest against poor service delivery in many areas in South Africa.

2.10. Impact of Electrification Programme on the Poor in South Africa

In 1993, only 36 per cent of the population had access to grid electricity, but since the introduction of the National Electrification Programme mentioned above, electrification rates have been increasing steadily. Though the target was put at about 66 per cent by 2001, but it was exceeded, with 2.75 million connections achieved in Phase 1 (Borchers et al., 2001:78). At the end of 2001, the National Electrification Programme recorded more than 3.4 million new connections since 1994.

According to Department of Minerals and Energy (DME), about 70 per cent of the households are currently electrified. The Government is continuing the programme with the intention to electrify 300,000 homes annually. An interesting feature to note is that the cost of connection was declining steadily during the programme. In spite of the major achievements such as being self-financed by the country of the programme, nationally about 30 per cent of the population (primarily composed of the poor) is yet to be electrified (20% urban and 50% rural). It shows that the programme essentially targeted the rural areas that housed mostly poor and dis-advantaged (Borchers, 2001:78).

An off grid electrification programme was launched in March 1999, aimed at providing 350,000 solar home systems (SHS) in seven concession areas. However, this was later revised to five concession areas, and a sixth was recently awarded by the Government. Under this programme, the Government provides a subsidy of ZAR 3,500 to the concessionaire for each installation and the users pay a monthly service fee of ZAR 58 for maintenance. The system provided was rated at 50Wp capacity, which can power four lights, a radio and a black and white TV, estimated to consume about 6 kWh/month. Recently, the Government has initiated a subsidy programme of ZAR 40 to low-income users to help alleviate the burden of the monthly service charge, motivated by the recently instituted poverty tariff system that led to a discrepancy in benefits between the users of SHS and grid electricity. The most advanced concession in the programme is the Shell/Eskom joint venture, which installed 6,000 systems by 2000 (DME 2001). However, the implementation of the programme has encountered many operational problems.

In the White Paper on Energy Policy, the Government recognised that household access to adequate energy services for cooking, heating, lighting and communication is a basic need. While these needs could be met by various fuel-appliance combinations, without access to electricity, human development potential will be constrained. The Government has committed itself to

implementing legislative and other measures to progressively realize universal household access to electricity by 2010.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

In general, the welfare of poor communities with access to electricity has improved significantly under both off-grid and grid programmes. However, the levels of improvement differ between off-grid and grid-connected users since the services to the former are limited to only lighting and media. The welfare benefits were greater for grid-connected users, but lower than what was anticipated because the consumption levels were also lower than expected at the start of the programme (Borchers et al., 2001).

2.11. Conclusion

Electrification of the poor has also resulted in several additional benefits. These include reduction of fires, particularly in low-income urban areas from the use of paraffin and candles, and reduction of local and indoor air pollution from firewood use, especially in areas where these fuels are used extensively for cooking and heating. Electrification of clinics and schools has yielded significant benefits for improved health-care service provision, involvement of schools in evening adult education, and improved efficiency of school operations through use of equipment, such as photocopiers and computers. In certain cases, electric street lighting may have contributed to reduced crime levels.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

The aim of this chapter is to illustrate an overall methodology together with the methods used to achieve the objectives of this research as stated in chapter one. It also describes the overall methodology adopted, population identification, sampling procedures and unit of analysis, the means to study site methods for data collection and analysis. The study was conducted in Thulamela Local municipality of Vhembe District.

3.2. Research Method

Research methodologies refer to the rationale and the philosophical assumptions that underlie a particular study (Leedy, 2004:23). This is therefore, informed by both quantitative and qualitative approaches. Philosophically, its arguments are underlined by inequalities of services delivery.

According to Leedy (2004:67), quantitative approach is based on positivism, in which scientific explanation is adopted. Quantitative data collection methods are based on measurements using verification instruments in order to objectify phenomena under study. Measuring instruments involves the assignment of numbers, in terms of fixed rules, to reflect differences between them in some of their characteristics.

Quantitative research focuses on measuring objectives, facts and variable and uses statistical analyses to express numbers (Neuman, 2006:98-99). Because of the power the statistical evidence provides to research methods; it was used in this study to statistically support how the community thinks about the water

services they used. Even though it was expressed during focus group discussion, interview schedules and households questionnaires were conducted. Where the community was generally not satisfied with the services delivery, it needed to be statistically proven to strengthen the statement made by interview schedules and focus group interviews in the study.

Leedy (2001:56:58) further defines qualitative study as an inquiry process of understanding a social or human problem based on building a complex, holistic picture formed with word, reporting detailed view of informants and conducted in a natural setting. From the participant's point of view this was constructivist or post positivist approach. In this study qualitative research is also suitable since it provides the researcher with the understanding of experiences and problems faced by the communities that receive inadequate electricity. Quantitative research was used to obtain data about the electricity services important to community participation in the study area.

This research method allows the in-depth discussion and the freedom to capture the real life perspectives and opinion of key stakeholders including the community members, because it is not bound to predetermined codes and scaling as in the case of quantitative data. It enables the researcher to add questions and capture responses that was not initially thought of when the questions were first designed.

3.3. Population of the Study

Donald and Pamela (2003:78), defined population as the group upon which the researcher is interested in making inferences. Population is defined as a set of entities in which all the measurements of interests to the practitioner or researcher are presented. (Powers, Meenaghan and Toomey 1985:235)The target group was selected in order to represent the entire population of Thulamela municipality. The population consisted of municipality officials

(Community Services Section), Ward Councillors, Ward Committees, stakeholders and Eskom Officials. The population was composed of one racial group, two nationalities with mixed gender and different age groups.

3.4. Sampling Methods and Size

Mouton further mentions that the aim of sampling is to produce representative's selection of population elements. With regards to presentation Wimmer and Dominick (1983:58) mentioned that a sample that is not representative of population, regardless of its size, is inadequate for testing purposes. The results cannot be generalised for the population.

Cohen and Manion (1989:10) view a sample as a smaller group or subset of the population from which the researcher attempts to collect information so that the knowledge gained typifies the total population under study. Best and Kahn (1993:13) also share similar views regarding sampling by defining a sample as a small proportion of a population selected for observation and analysis.

In conclusion, sampling makes it possible to estimate characteristics of a large group by examining the characteristics of smaller groups. The larger group is referred to as a population. The smaller group drawn from the population is called sample.

3.4.1. Sampling Methods

According to Saunders, Lewis and Thornhill (2000:150), sampling method provide a wide range of methods that enable the researcher to reduce the amount of data needed to collect by considering only the data from sub-group rather than all possible cases. . A simple random and purposive sample was used for selection of a sample population. Simple random and purposive samplings are used in different contexts for the selection of a population sample.

In this study purposeful method of sampling was used so that individuals could be selected because they have experienced the central phenomenon. A purposive sampling technique was employed in selection study participants. All participants in this study already met the requirements and characteristics that the researcher needs as they are serving in different structures. In simple random sampling, every member of the population has an equal chance of being selected. The selection of the households and study sampling was done randomly for questionnaire distribution in both villages.

3.4.2. Sampling size

When choosing a sampling size, practical consideration like time and cost should be taken into account. Maree (2009:179), indicated that there are things that may be looked at by the researcher as possible ways to reduce the cost, that is sample size, method of data collection, population, accuracy and statistical analysis. Luck and Rubin (1987:56) warn that, when using this method, the researcher must be confident that the chosen sample is truly representative of the entire population.

Table 3.1: Sampling size of the study

TARGET	STUDY POPULATION	STUDY SAMPLE
Household	500	150
Government authorities	2	2
Local authorities	2	4
SANCO	20	10
Chief (Misanda)	2	2
Total	526	168

3.6. Data Collection Methods

The researcher using qualitative research considers method of collecting data such as observation, interviewing, questionnaires, and others (de Vos 2002:440). The choice of data collection method for the researcher consisted of the questionnaires that are useful in the process of controlling or checking whether the researcher has identified all the constituent element of a concept.

Both primary and secondary data was used for this study. Secondary data was obtained from government publications, research publications and reports. Secondary data was collected through literature reviews aimed at identifying attributes and inadequate electricity, function of energy and energy demand by households. Primary data was obtained through field observation of infrastructure and interview schedules and household questionnaires. Household questionnaires were carried in two villages which are Tshififi and Mukumbani villages in order to validate the attributes gathered from secondary sources and to allocate significant levels of these attributes.

3.6.1. Questionnaires

In this study 150 questionnaires with structure questions were divided and distributed to the households to solicit for household demographic information, information on present energy use, current electricity supply systems and the management of energy, personal hygiene, livelihood activities, maintenance of infrastructure and preferred choices in terms of basic services, which includes their willingness to pay for energy services the sampled households and interviewing the household owners. These were also used in collecting data on the characteristics of the respondents, education level and employment. The respondents were mostly the household heads or any member of the households energy use.

3.6.2. Field Observation

According to Leedy & Ormrod (2002), observation is a qualitative method with roots in traditional ethnographic research, whose objective is to help researchers learn the perspectives held by study populations. An observation was also undertaken to assess the infrastructure used for supplying energy and whether or not members of the community protect and take good care of the supplying system around the community and in their houses. An observation on whether the community can afford energy was also done. This was useful in collecting data with regard to current energy supply systems and management thereof.

3.7. Data Analysis

Mouton (1996:161) points out that the term analysis basically means the resolution of a complex whole into the parts. It involves reducing to manageable proportions the wealth of data that one has collected or has available. According to Fraenkel and Wallen (1990:47:98), data analysis is the process of simplifying data in order to make it comprehensible. Earlandson, Harris, Skipper and Allen (1993:111) define data analysis as the process of bringing order, structure and meaning to a mass of collected data.

Miles & Huberman (1994:90) state that data analyses is the process of systematically searching and arranging the interview transcription, field note, and other materials that are accumulated to increase the researcher's own understanding of them and to enable one to present what one has discovered.

The data analysis will be grouped into categories. An analysis will be done using Statistical Package Social Sciences (SPSS) immediately after the data has been collected and after the results will be interpreted in order to generate research report. The results will be presented in the form of tables and percentages. A brief discussion representing tables will be given to summarize the whole data.

3.8. Ethical Consideration

In a study of this nature, the potential for conflicts of interest, invasion of privacy, inconvenience to respondents and loss of confidentiality are important issues. The ethical aspect was carefully considered prior to the study. Letters informing and requesting permission to conduct the study were sent to the Shitlhelani South African National Civic Organisation (SANCO) and ESKOM. Permission from these two organisations was obtained prior to the study (Appendix B). Participants were **briefed-fully** on the purpose of the study. Since assurance of **confidentiality** and **anonymity** is particularly important, the participants were informed that their participation was entirely voluntary, and they had a right to remain anonymous, and to refuse to participate or to withdraw at any time without penalty.

In the context of the research, ethics refers to the appropriateness of a behavior in relation to the rights of those who become the subject of the researcher's work or affected by it. Wells (1994:294) defines ethics in terms of code of behavior appropriate to academics and code of research. Permission will be applied from the relevant authorities to conduct a research with the Thulamela officials, Ward Councillors, ward committees, Eskom officials and the traditional leaders to ensure legitimacy of the study.

All information collected was treated **confidentially**. No names were used or required when answering the questionnaires. Participant's privacy was considered and respected. Participant's consent to participate in the research was voluntary and free of any coercion. The potential participants were informed as fully as possible of the nature and purpose of the research, the procedures to be used, and the expected benefits to the community.

The participants were competent to give **consent**. If the participant was not competent due to mental status, disease or emergency, a designated surrogate might provide consent if it is in the participant's best interest to participate. The participants were having full knowledge and information about the structures and division they serve. The participant had to understand what has been explained and was given an opportunity to ask questions and have them answered by the researcher.

The participant's personal dignity and autonomy was recognized. (Human dignity is also emphasized in our Constitution of the Republic of South Africa of 1996.

3.9. Conclusion

This chapter has covered all issues concerning overall research methodology adopted, population identification, sampling procedures and units of analysis, the means of access to study sites and methods for data collection and analysis. The issue of how data were collected and analysed were dealt with in this chapter. The next chapter deals with the interpretation and analysis of the collected data.

Table 4.1: Indicate households response from a social demographic profile

Gender	Married		Single		Divorced		Widowed	
	N=150	%	N=150	%	N=150	%	N=150	%
Male	35	23.3	9	6	6	4	0	0
Female	80	53.3	20	13.3	10	6	3	3

The average number of people per household who were interviewed in the village was seven with a minimum of two and a maximum of twelve individuals. From 150 households that were randomly selected 77% of the respondents were females of which 93.3% were married and only 13.3% of those women were single mothers, and about 3.3% were divorced only 3.3% are widowed (Table

4.1): The male respondents from the study area households account for only 23% of the respondents in the village.

CHAPTER 4: DATA PRESENTATION, INTERPRETATION AND ANALYSIS

4.3. Level of Education

4.1. Introduction

This chapter presents the data analysis, interpretation and description of findings from the empirical research. The data which were collected by means of field observations and questionnaires were analysed and interpreted to determine the challenges facing Thulamela Municipality with regarding to electricity supply. The questionnaires analysed in this chapter were based on limited statistics such as counts of frequency distribution and percentages results which were interpreted. Photos that were presented as evidence were captured during the time of field observation.

4.2. Households Demographics

Table 4.1: Indicate households response from a social demographic profile

Gender	Married		Single		Divorced		Widowed	
	N=150	%	N=150	%	N=150	%	N=150	%
Male	35	23.3	0	0	0	0	0	0
Female	80	53.3	20	13.3	10	6.6	5	3.3

The average number of people per household who were interviewed in the village was seven with a minimum of two and a maximum of twelve individuals. From 150 households that were randomly selected 77% of the respondents were females of which 53.3% were married and only 13.3% of those women were single mothers, and about 6.6% were divorced only 3.3% are widowed (Table

4.1). The male respondents from the sampled households account for only 23% of the respondents in the village.

Figure 4.2: Percentage distribution of the education of the household heads Education Percentage

4.3. Level of Education

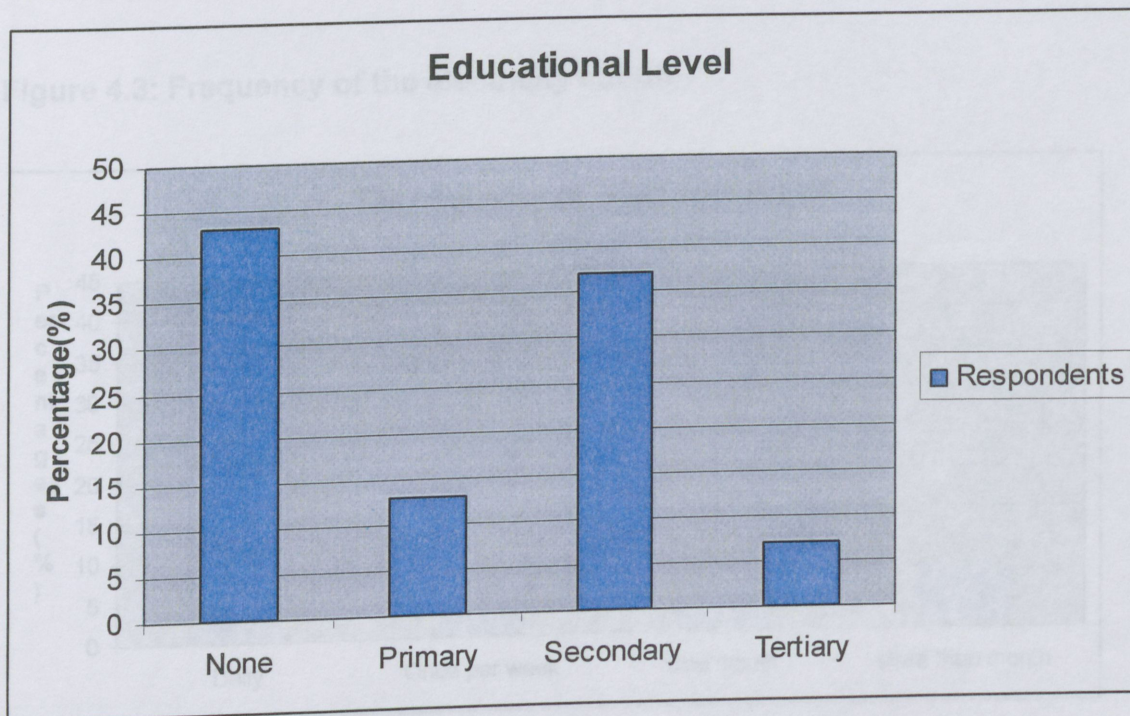
Figure 4.2 shows that the education level of the respondents is very low; more than 93.3% of the household's heads did not go beyond matric level (grade 12). Only 6.7% have Diplomas and Degrees whilst 43.3% have not received any form of education. Finally 13.3% of the interviewed population has primary level of education and 36.3% received secondary education.

The level of education has an impact on the development of a particular area. Mostly an uneducated person tends to have less care on what is being done to develop the area. It was found that some of the electric cables which have been damaged in the study area were destroyed due to carelessness particularly by people with limited education and inability to value the grid electricity supply infrastructure.

4.4. Household Income Generator

Table 4.2 shows that the household income varies with income source. A significant part of households with the lowest income (37%) depended on social grants whilst 24% of this income category depended on remittances and 28% depended on piece jobs. Most of the high income households depended on bonded salaries. Their studies found out that the majority of households had an income in the range of R100-R2000 (Table 4.3). This shows a high degree of income inequity where very few people have high incomes while many are poor. Of those who are formally employed, the highest incomes are for those who work in the public sectors representing only 18.7% of the total population.

Figure 4.2: Percentage distribution of the education of the household heads Education Percentage distribution (%)

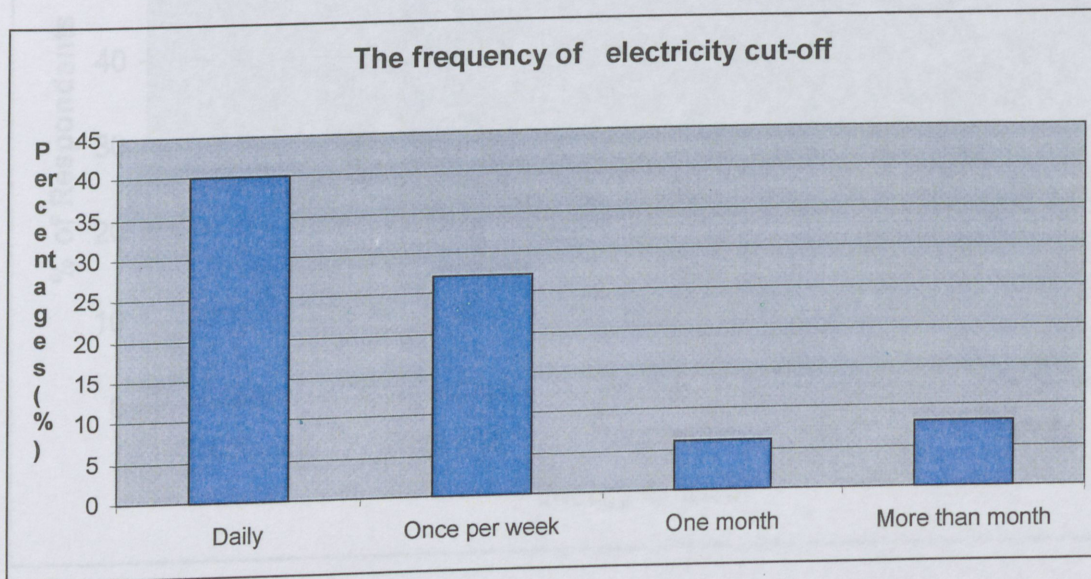


4.4. Household Income Generation

Table 4.2 shows that the household income varies with income source. A significant part of households with the lowest income (32%) depended on social grants whilst 24% of this income category depended on remittances and 26% depended on piece jobs. Most of the high income households depended on monthly salaries. Their studies found out that the majority of households had an income in the range of R100-R2000 (Table 4.1). This shows a high degree of income inequity where very few people have high incomes while many are poor. Of those who are formally employed, the highest incomes are for those who work in the public sectors representing only 16.7% of the total population.

period of six months without running electricity in their house. Some only had a history of one to two weeks without electricity in their place.

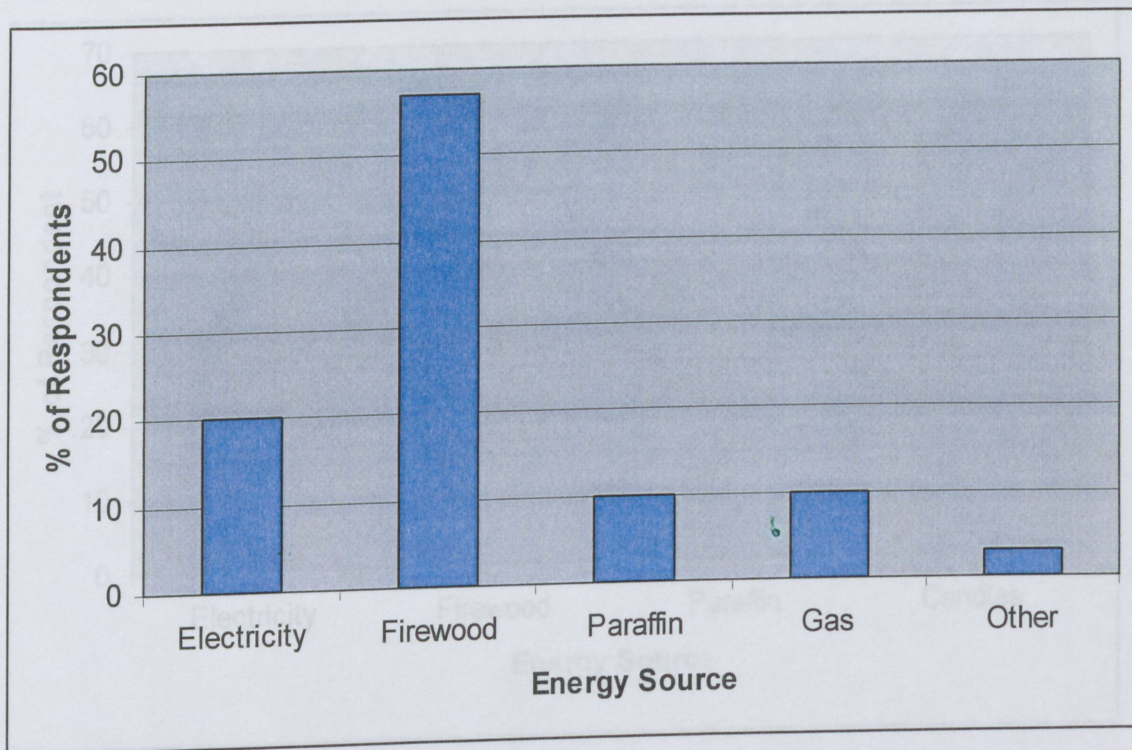
Figure 4.3: Frequency of the electricity cut-off



4.6. Energy sources used for cooking

Based on the utilization of firewood and its demand, the study showed that the majority of the households at Budeli village depended heavily on firewood, as their primary source of energy that is used for cooking, this account for about 57% (Figure 4.5). About 20% of the respondents showed that they used electricity as one of their secondary type of energy used for cooking, and 10% have indicated that they make used of gas energy for cooking. Only 10% of the respondents indicated that they used paraffin as additional source of energy used for cooking, while 3% indicate that they used other means of energy sources for cooking.

Figure 4.4: Energy source used for cooking



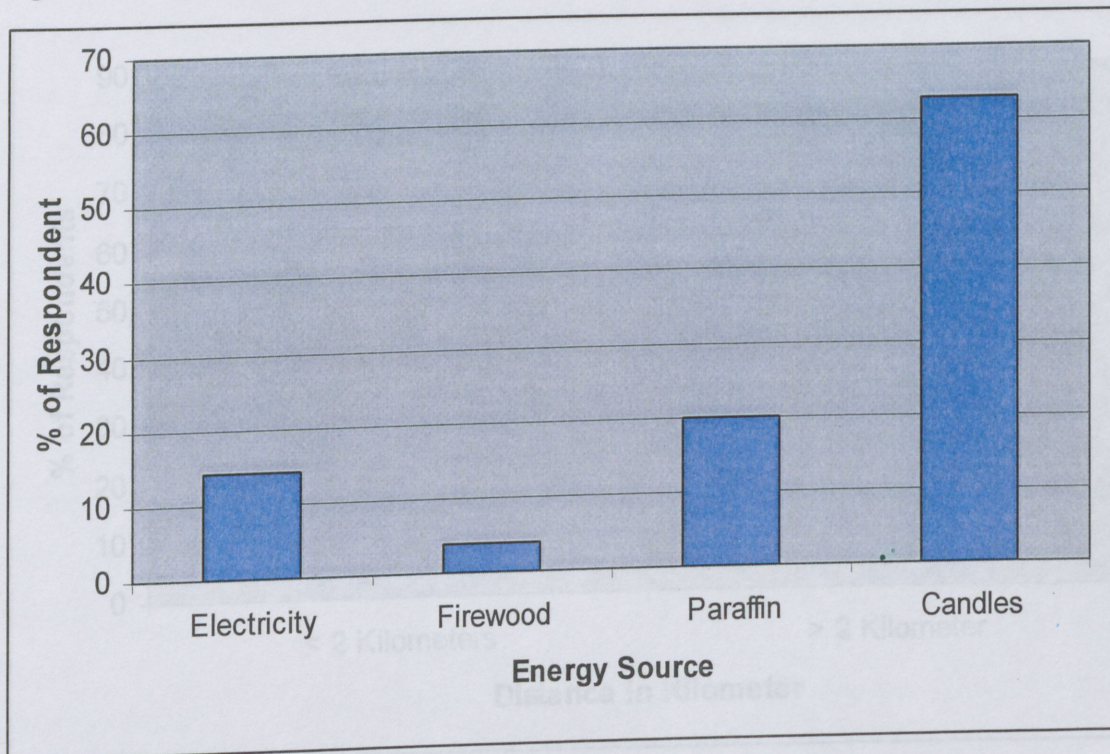
4.6. Distance travelled when collecting firewood

4.7. Type of energy used for lighting

The results indicate that there is a significant difference in the number of people

The majority of the respondents indicated that they either made use of firewood as the primary energy source in association with the secondary energy sources. About 63.3% of the respondents showed that they used candles as their first choice, secondary energy source for lighting (in association with, for example, firewood and paraffin respectively). Up to 20% of the respondents showed that they used paraffin for lighting as an alternative energy source, only 3.3% of the respondents indicated that they used firewood for lighting (Figure 4.6). From the results it clearly indicated that to transform that community as candles are the most dominant energy source used for lighting, and these candles in themselves had some negative impacts on human lives. The increasing cost of Paraffin has a massive contribution in the manner in which the society chooses their energy source since they cannot afford to buy it on a daily basis.

Figure 4.5: Energy Source used for lighting



4.8. Distance travelled when collecting firewood

The results indicate that there is a significant difference in the number of people who travel more than 2 km to collect firewood and this account for about 83% percent of the respondents (Figure 4.7). A very marginal number of respondents in the village which account for only 17% travel less than 2km when searching for firewood in the surrounding woodland patches. From the finding it was clearly indicated that the majority of people in the village travel more than 2km in search for firewood, this is a good indication that people have completely over utilized their surrounding woodlands patches and as a result they have to travel longer distance to areas where firewood is available. Again because the majority of people are unemployed they can not afford to pay for the transportation of their firewood.

Figure 4.6: Distance travelled when collecting Firewood

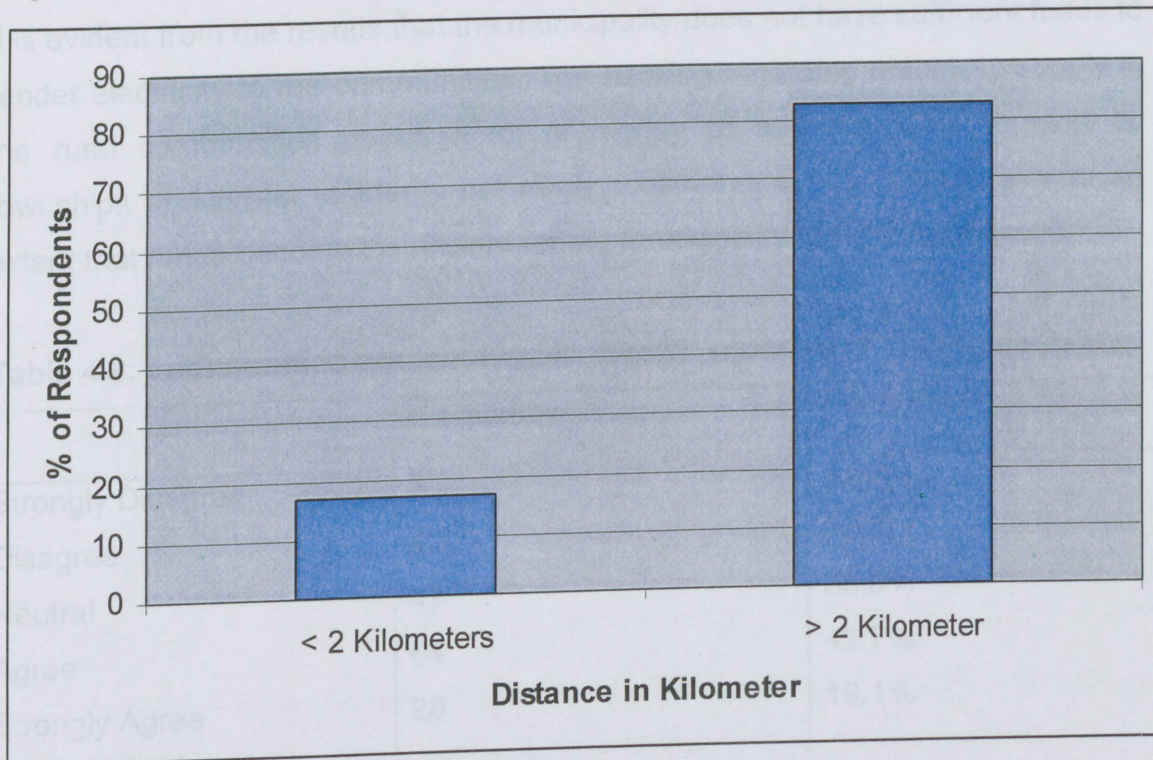


Table 4.3: The municipality does not have sufficient funds to render electricity to the communities

	Frequency	Percentage
Strongly Disagree	43	28.8
Disagree	16	10.9
Neutral	27	18.2
Agree	46	30.9
Strongly Agree	18	11.8
Total	150	100%

There was a slight difference between the respondents agreeing and disagreeing that the municipality have sufficient funds to render electricity supply to communities. Those disagreeing were 59 and constituting 39.3% while those

who agreeing were 64 which constituted 42.7%. The remaining 18 % were neutral to this factor (Table 4.3).

It is evident from the results that the municipality does not have sufficient funds to render electricity to the communities. The backlog regarding electricity supply in the rural communities needs a lot of money to address. The demand by townships and urban residents put more constraints on the municipality to an extent that funds become insufficient for the municipality to fulfill its obligation.

Table 4.4: communities are involved in the IDP process of the municipality

	Frequency	Percentage
Strongly Disagree	3	1.8%
Disagree	10	6.4%
Neutral	45	30.0%
Agree	64	42.7%
Strongly Agree	28	19.1%
Total	150	100%

For communities being involved in the IDP process of the municipality, the majority of respondents either agreed or strongly agreed. These were 64 in number and constituted 42.7% of the total number of respondents. Those who disagreed or strongly disagreed were 59 and represented 39.3%. Those who were either unsure or did not know whether communities are involved in the IDP process of the municipality represented 18% and were 27 in number.

Results indicate that communities are involved in the IDP processes of the municipality. Even so it seems that not everybody in this processes. Despite the rigorous and by now familiar IDP framework, electricity departments often

expressed a high level of frustration with their counterpart department for housing, particularly with respect to obtaining funding to address backlogs.

Table 4.5: The municipality employees are properly qualified to render quality electricity delivery for the community

	Frequency	Percentage
Strongly Disagree	46	30.9%
Disagree	20	13.6%
Neutral	42	28.2%
Agree	29	19.1%
Strongly Agree	13	8.2%
Total	150	100%

There were 150 respondents, constituting 42.7% of the total sample that agreed that the municipality employees are appropriately qualified to cause deliver quality electricity service for the community. 59 respondents representing 39.3% disagreed with the factors. 27 respondents constituting 18% of the total sample were neutral.

Again results illustrate the kind of employees that the municipality recruited was irrelevant in that they were improperly qualified.

4.9. Maintenance of Electricity Supply System

Respondents indicated that they were dissatisfied with the maintenance because problems were not addressed soon enough. They also expressed concern about the poor or lack of notification in the case the Municipality conducted electrical works in the area.

Table 4.6: Batho Pele principles are core in the delivery of electricity service in the municipality

	Frequency	Percentage
Strongly Disagree	43	28.8%
Disagree	16	10.9%
Neutral	27	18.2%
Agree	46	30.9%
Strongly Agree	18	11.8%
Total	150	100%

The majority of the respondents either agreed or strongly agreed (42.7%) and that Batho Pele principles were core in the delivery of electricity services in the municipality. 59 respondents constituting 39.3% disagreed with the factor. Only 27 respondents were either not sure or did not know whether the Batho Pele Principles were core to the delivery of electricity in the municipality.

It was evident that Batho Pele Principles were core to the delivery of electricity services in the Thulamela Municipality. Everybody needs decent electricity service from public officials and this should be emphasized to public officials.

4.9. Maintenance of Electricity Supply System

Respondents indicated that they were dissatisfied with the maintenance because problems were not addressed soon enough. They also expressed concern about the poor or lack of notification in the case the Municipality conducted electrical works in the area.



Picture 4.1: Poor maintenance of electricity supply system in Mukumbani village (Source survey data: 2011)

The municipality also has a problem in the maintenance side because it takes time for the Eskom workers to respond to a problem said one of the government officials (see picture: 4.1).

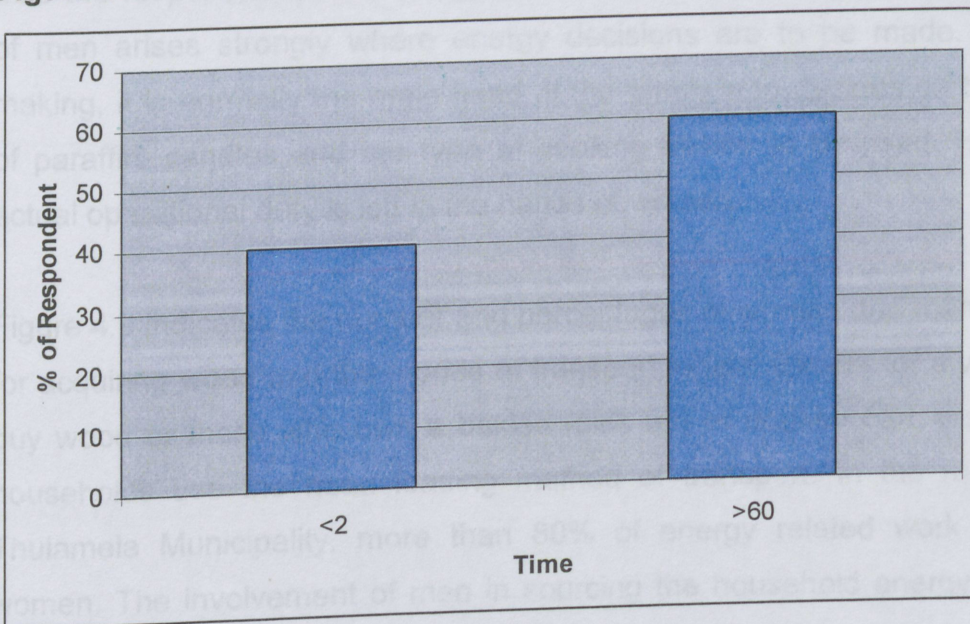
Local authority normally makes a profit on electricity sales and this enables them to supplement their income from taxation from the rendering of necessary but unprofitable services

4.10. The amount of time spent when collecting firewood

The results also indicate that a small number of households took less than two hours when collecting firewood and they accounted for only 40% of the respondents (Figure 4.8). A significant number of respondents in the village showed that the majority of people spent more than two hours on collection of

firewood and they account for about 60% percent of the respondents. The fact that people travel longer distances searching for firewood this also affect their time because these firewood are not readily available they have to spend more time trying to gather the right kind of wood. As much of the time is spent on the collection of firewood, the standard of living in the village decreases due to the fact that by the time they return from the forest this people would be tired and need more time to rest and in the process they neglect to do activities which can improve their daily lives.

Figure 4.7: The amount of time spent when collecting firewood.



4.11. Collection of firewood by members of the household

Figure 4.8 below shows that women are the main role players in the collection of firewood and account for 53% of the respondents in the village. Central to the harvesting and collection of firewood is the children who account for about 37% of the respondents while men only account for as little as 10% of the respondents. Women and children have been very instrumental in both the

collection and use of firewood in the village because they are the ones responsible for all the primary domestic activities in the household. Because women and children are so directly involved in the utilization of firewood they are the ones who would be affected when firewood resources become scarce.

However there are a low proportion of men who are involved in the collection of firewood as compared to that of women and children. This indicates that men, good as they may be are not actively involved in the daily running of the household. This means that the role of men in making sure that there is enough resources to sustain and improve quality of life in the family has not been recognized, this is due to the fact that most men still believe that women should take the responsibility of running the household. Nevertheless, the involvement of men arises strongly where energy decisions are to be made. In decision-making, it is normally the male head of the family who decides on the purchase of paraffin, candles and the type of cooking device to be used. However, the actual operational duty is left in the hands of women.

Figure 4.9 indicates the number and percentages of women and men responsible for acquiring wood and the modes of transport in use. Except for a very few who buy wood or those who own a bakkie (pick up) or donkey cart, the majority of households use the head loading method of transport. In the rural areas of Thulamela Municipality, more than 80% of energy related work is done by women. The involvement of men in sourcing the household energy is relatively low. It is only when the wood is collected for sale or where social constraints restrict women from leaving their homes (for example, when they are heavily pregnant) that men participate.

Figure 4.8: Collecting of energy by member of the households

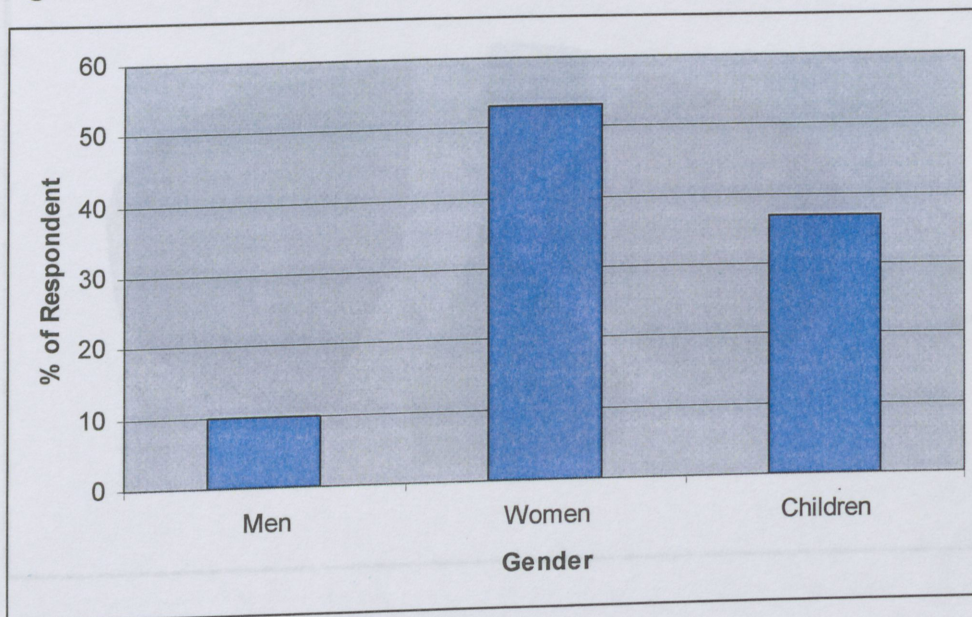


Figure 4.9: Community's response on who should manage their woodland

4.12. Responsibility to manage the energy (woodland)

4.13. Firewood Collection Method

The respondents were asked to indicate their preferred personnel or organization which should take up the responsibility to manage the woodlands in their village. The study show that 46.6% of the respondents argued that this woodland should be managed by the community members themselves and about 36.6% of the respondents were of the view that this woodland should be managed by their headman (Figure 4.10). Only 10% of the respondents indicated that these woodlands should be privately owned, while 6.6% said they should be owned and managed by the state department.

Figure 4.11: Method used to acquire firewood in the household

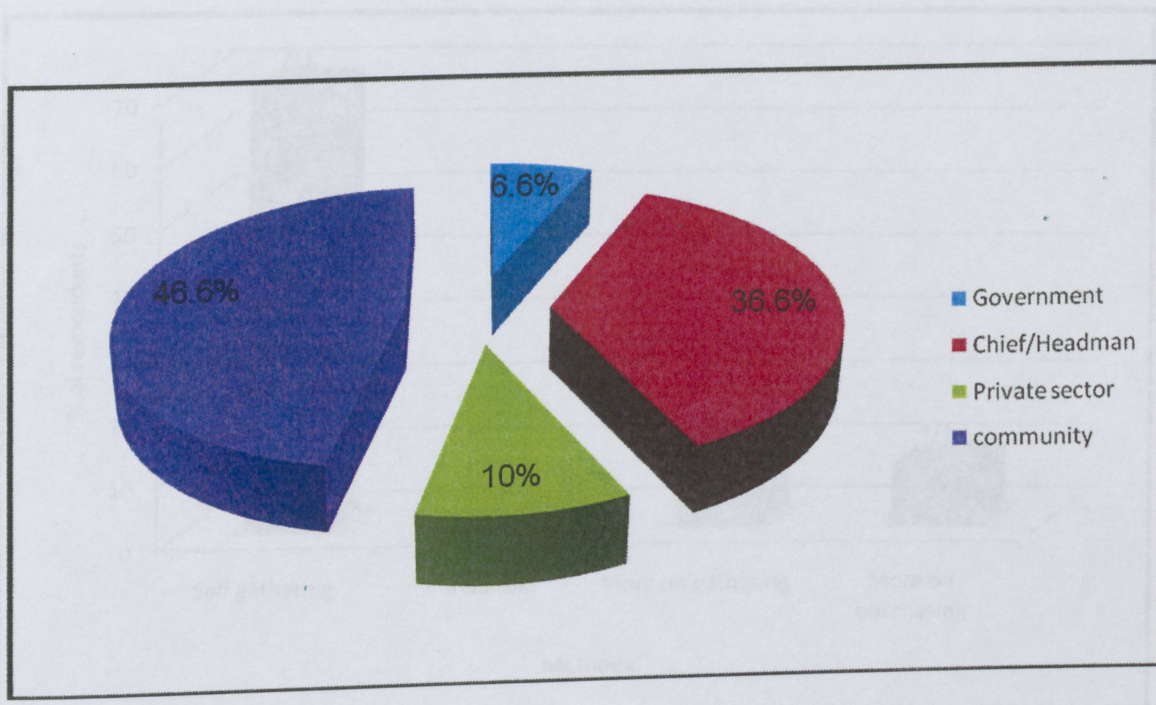


Figure 4.9: Community's response on who should manage their woodland

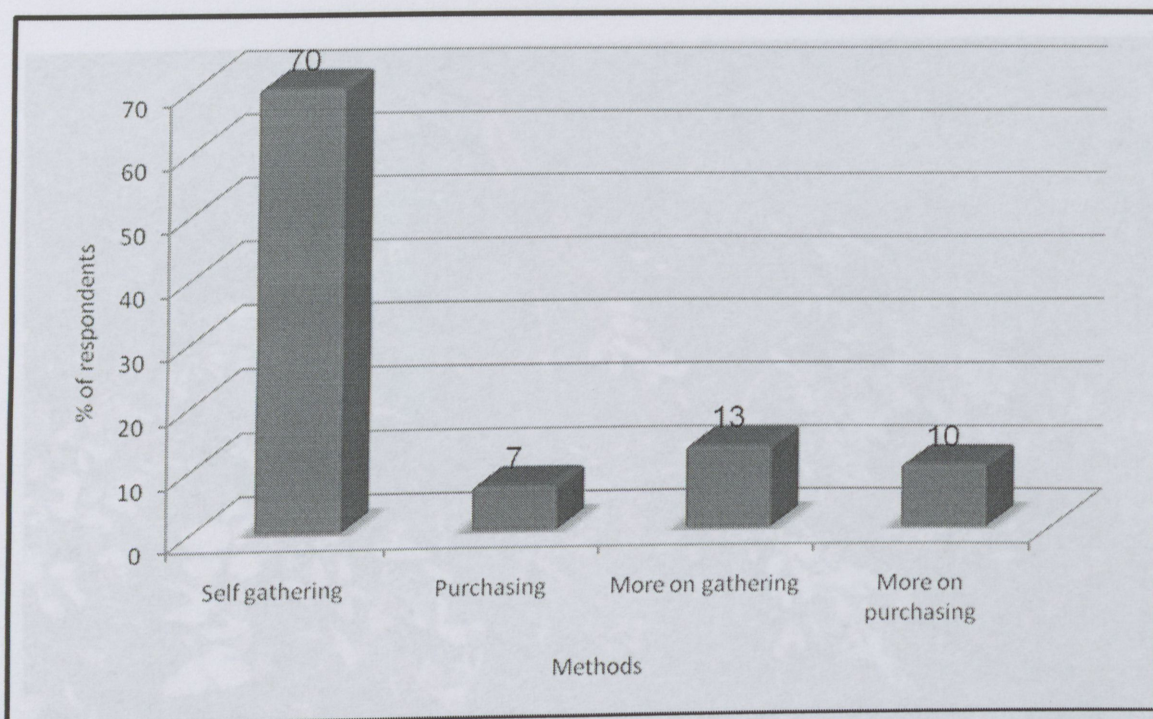
Here the majority of people indicated that they gather firewood on their own as

4.13. Firewood Collection Method

The study shows that 70% of the respondents gather their own firewood and about 13% of the respondents in the village has indicated that they rely on both purchasing and gathering of firewood (Figure 4.11). About 10% of the respondents showed that they either purchase or gather firewood for domestic use.

70% of the respondents clearly indicated that they do not have money to buy other form of energy materials, hence they closely rely on firewood for energy purpose. Only a small number of respondents purchase firewood from the local traders and these are people with adequate employment but because they do not have electricity in their households, firewood becomes their energy source.

Figure 4.11: Method used to acquire firewood in the household



Source: Survey.

Here the majority of people indicated that they gather firewood on their own as compared to only 7% who rely only on purchasing their firewood. This is supported by a plate below of a man who was captured during the survey while he was collecting green live firewood in the nearby forest. Very few people showed that they can either source their firewood through both purchasing and self gathering (Picture 4.2).

70% of the respondents clearly indicated that they do not have money to buy other form of energy materials; hence they closely rely on firewood for energy purpose. Only a small number of respondents purchase firewood from the local traders and these are people with adequate employment but because they do not have electricity in their households, firewood becomes their energy source.



Picture 4.2: Firewood gathering by means of self gathering in Damani

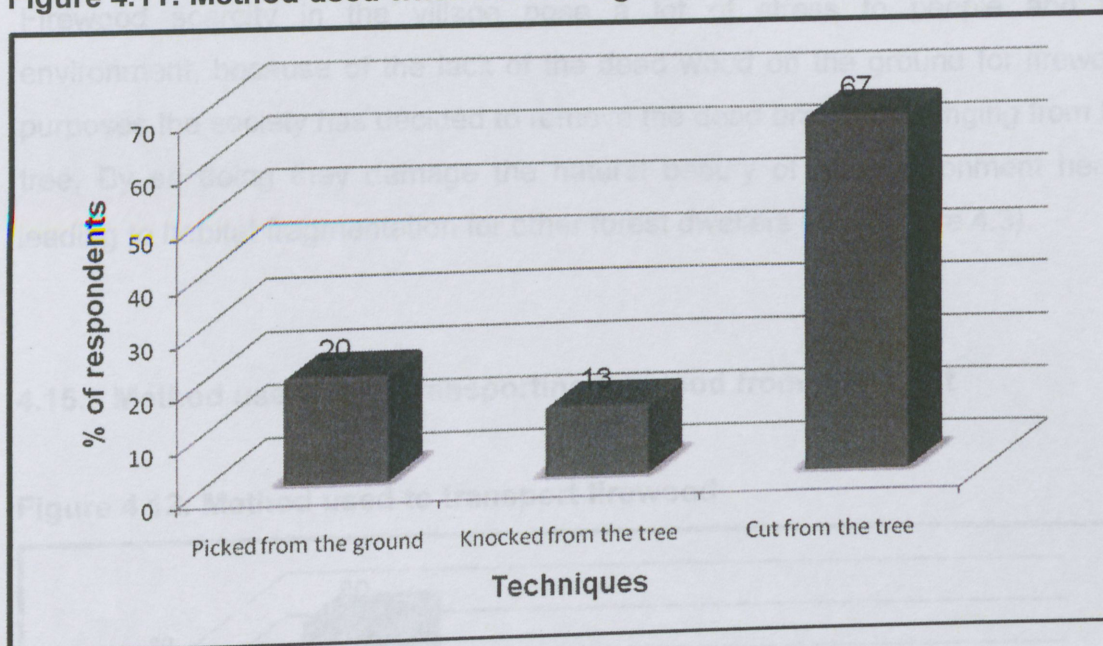
4.14. Techniques employed in the collection of firewood

When looking at a specific technique used when collecting firewood, this study shows that 67% of the respondents cut live trees and dry them to make firewood and 20% of the respondents indicate that they pick the deadwood from the ground and very few people (13%) indicated that they only knock dead branches from the live standing trees (Figure 4.10). Lack of dead wood materials on the ground has contributed enormously on the manner in which firewood has been collected in the village. The need for firewood to generate energy has posed a lot of pressure on the woodlands, because people tend to harvest living green trees to make firewood.

Source: Survey, 2010

Picture 4.3: Knocked dead branches from a flat crown tree in the forest Damani

Figure 4.11: Method used when harvesting firewood

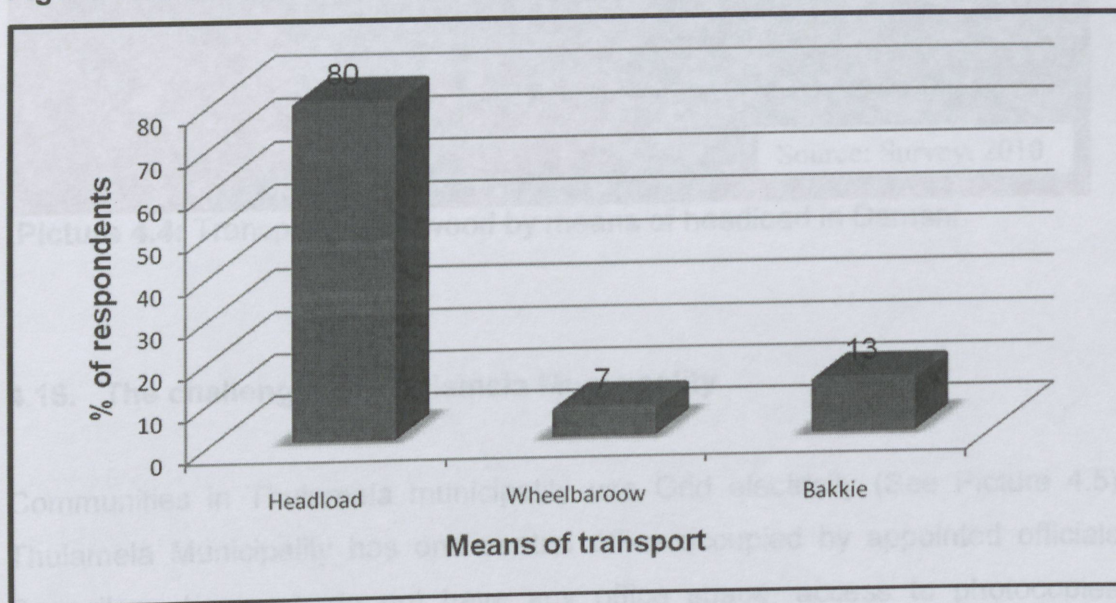


Picture 4.3: Knocked dead branches from a Flat crown tree in the forest Budeli

Firewood scarcity in the village pose a lot of stress to people and the environment, because of the lack of the dead wood on the ground for firewood purposes the society has decided to remove the dead branches hanging from the tree. By so doing they damage the natural beauty of the environment hence leading to habitat fragmentation for other forest dwellers (see picture 4.3).

4.15. Method used when transporting firewood from the forest

Figure 4.12: Method used to transport firewood



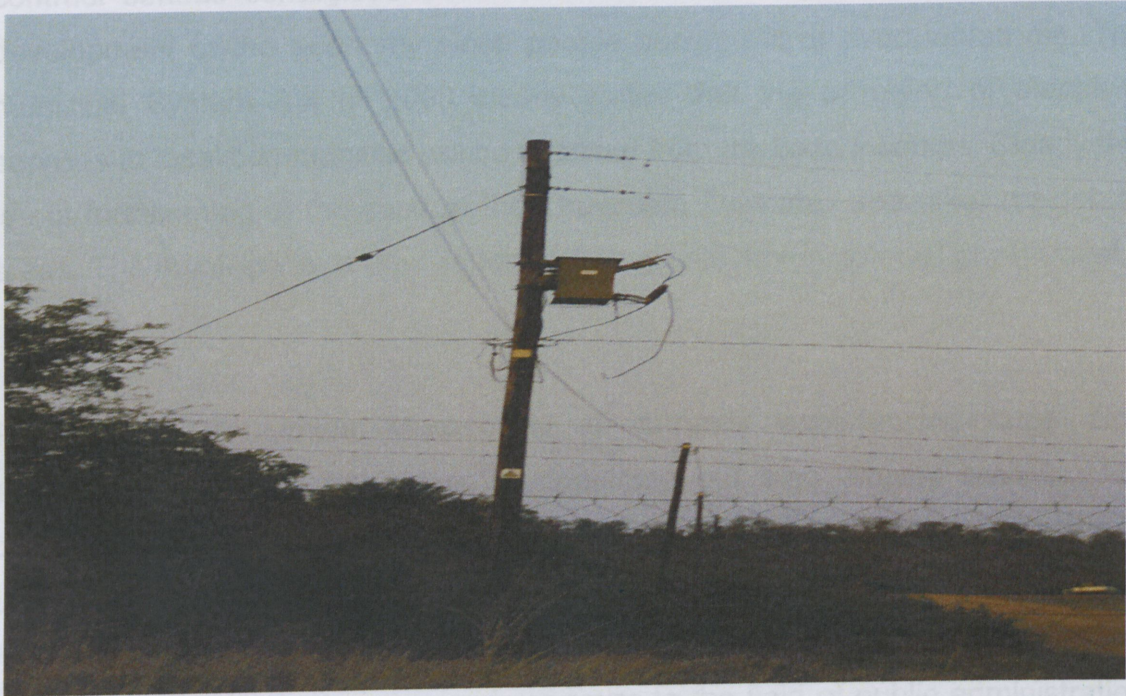
The study indicates that 80% of the respondents transport their firewood from the forest by means of headload and women are in the majority when transporting firewood in their households (plate 4.4). The study also shows that only 13% of the respondents use bakkies when transporting firewood from the forest (Figure 4.13). The smallest proportion (7%) of the respondents uses wheelbarrows to carry their firewood from the forest.



Picture 4.4: Transporting firewood by means of headload in Damani

4.16. The challenges in Thulamela Municipality

Communities in Thulamela municipality use Grid electricity (See Picture 4.5). Thulamela Municipality has one central office occupied by appointed officials. Councilors, however, do not have any office space, access to photocopies, computers, and fax machines or library resources; undoubtedly, this impact on the delivery of electricity supply in an efficient and effective manner. Firstly, members of the community are unable to communicate with their councilors either through writing to them or visiting them at their offices. Councilors can therefore not be 'in touch' with the needs of the community or aware of any community dissatisfaction.



Picture 4.5: Grid electricity supply at Budeli in Thulamela Municipality

Councilors are limited in development knowledge and expertise. This may contribute towards an unhealthy dependence on appointed officials (who may not necessarily have the best interest of the community at heart). Finally, the lack of equipment like computers may impact on the successful implementation of Integrated Development Plans in so far as Information Technology and Management Information systems are concerned.

As eluded elsewhere in this chapter, the high level of unemployment in the township poses a further challenge for the Thulamela Municipality. Where other municipalities receive and operate on funds received from tax revenues, Thulamela municipality is dependent on grants from provincial government. This gives rise to various problems. Firstly, the municipality is unable to deliver electricity services as prescribed by the Constitution and other legislation. Secondly, it creates tension between the local residents and the municipality. Local residents may feel that government is not responsive to their needs.

Thirdly, if basic needs remain unmet communities may be exposed to and contract serious contagious diseases. This in turn negatively impacts on the development of the economy since people become ill or even worse die. The municipal System Act of 2000 clearly states that the provision of electricity services to local communities will be financed from tax base incomes. Clearly this is not forthcoming in the case of the Thulamela Township and other residential areas. The municipality is now dependent on grants from provincial government.

Furthermore, Thulamela Municipality is currently experiencing huge staff shortages. This not only refers to appointed but also elected officials. For example, one councillor is responsible for many townships. Naturally, he/she is unable to travel to all of these residential areas. Some of them are limited even more since they are unable to drive motor vehicles. More serious limitations relate to the level of education and exposure to the field of public administration of councilors. In many instances these councilors only have matric certificates. There are few who possess teaching diplomas or degrees. Only appointed officials are well educated.

Currently the only service being paid for is electricity. This is largely due to the fact that local residents use the pre-paid system of electricity. This ensures a more economic use of electricity, since it displays the number of remaining units. The problem of affordability limits the opportunities for entering into Public or Private Partnerships, however, PPs have shown to assist municipalities in areas of financial, infrastructural or staff constraints. And therefore may assist the Thulamela Municipality in areas where it may be experiencing constraints,

In South Africa as a developing country, Thulamela Municipality is no exception for development through IDP programme for the entire jurisdiction. Mushrooming of new villages is taking place at high speed. This makes it difficult for the

municipality to provide electricity on time to its communities. Modern living without electrical energy would be unthinkable since most communities and countries rely on the use of electricity. People throughout the world use this resource in many different ways. For example, indoors - it provides electrical energy to homes for lights, telephones, refrigerators, radio and television sets. It also provides heat for irons, stoves, kettles, geysers, etc. Outdoors, electricity provides lighting for streets and for signs, it runs alarms for banks, shops, police and fire departments (Christie, 1984:90-98).

4.17. Challenges to Integrated Planning

The power station situated in Tshikweta village in Thulamela Municipality supply electricity to neighboring communities (see picture 4.6). The power is not enough to provide electricity in Thulamela municipality as a result of mushrooming villages. There also appears to be a fundamental challenge at municipal leadership level (and possibly escalating to provincial and national level) concerning Integrating Development Planning. Despite the rigorous and by now familiar IDP framework, electricity departments often expressed a high level of frustration with their counterpart department for housing, particularly with respect to obtaining funding to address backlogs. Some electricity departments reported that housing departments do not communicate plans to, for instance, proclaim areas relating to informal housing, or plans for large scale housing development, which would have an influence on both electrification planning and bulk supply planning.



Picture 4.6: Main power station situated in Tshikweta village

4.18. Organizational commitment to Infrastructure asset management

It appears that municipalities, while very committed to immediate service delivery needs, do not have the same level of commitment to meeting long term infrastructure management goals. There appears to be a focus with respect to immediate community needs such as connection backlogs, and a lack of focus on business planning and long term planning. Specifically with respect to electricity, this translates into a disparity between the electricity departments and the municipalities in terms of budgeting and planning, as well as the reinvestment of funds generated by the electricity business.

4.19. Cost of Electricity Unit

Most of the people being interviewed complained about the cost of a unit of electricity. The price of electricity goes up once or twice every year. Most of them cannot afford to purchase enough electricity units to meet their energy needs. Many of them are even paying more because of the arrears that are appearing on their accounts, sometimes still carried over from the apartheid era. Residents from Thulamela Municipality buy their electricity units directly from Eskom, while residents from Budeli Village get their electricity services from Thulamela municipality. Since Thulamela buys electricity in bulk from Eskom and sells it to the residents with a mark up, this makes the price of electricity different in the two respective areas.

Residents in Budeli, Tshisele, Dumasi and Tshiffifi villages are paying more for a unit than residents in Thohoyanddou Block F, yet they are neighbouring townships divided by a street. The difference between prices varies from 9 cents to 15 cents. In addition to that, residents pay more for a unit of electricity than industries that are situated even close to the two residential areas. According to the Eskom official, this happens due to the fact that industries use large volumes of electricity and thus receive discounted rates

4.20. Knowledge and understanding of the electricity pricing details

Residents realise that electricity is an economic resource that needs to be paid for. But what they do not understand is what a unit is, how much they pay for a unit, under what circumstances would a unit last longer and what behavioural patterns would make units last long. These questions remain unanswered up to now and accumulate doubts and loss of trust in electricity service providers, which in the end result into boycotts. Many residents also struggle to understand



how the FBE policy works and what it means for their personal accounts. No one from either the Municipality or Eskom has ever convened a meeting and explained more about the FBE. For those using pre-paid metering system, they do not understand most of the details indicated on the receipt except being told about a set of numbers they have to insert when loading the units. Hence, they are not aware that the 50 kW/h are automatically loaded for free on each first monthly electricity purchase. This leads to misunderstandings as to whether or not all residents receive the FBE amount and makes the consumers question the equity of the policy.

4.21. Municipality's capacity in managing electricity services

Thulamela municipality and Vhembe District are responsible for service delivery. There are many complaints from residents that have not been attended to. The relationship between the residents and the councillors is not strong because they have not reported back to the residents as feedback from the municipality. When it comes to meter reading, most of the meter readers from the council never open the box and physically collect the readings. Rather, they bill the residents based on guesswork. The council lacks sensitivity and understanding when dealing with electricity problems existing among residents.

4.22. Conclusion

This chapter dealt with data analysis and interpretation. 120 respondents, who included community members completed questionnaires related to the challenges faced by Thulamela municipality with regard to electricity supply, and the results of the service delivery rendered in the Thulamela Municipality.



5.1. Introduction

In this chapter the researcher begins with a general overview of the challenges facing Thulamela Municipality with regarding electricity supply, which shows that the aims were achieved. The experiences of stakeholder and government officials obtained from questionnaires conducted are described together with the recommendations for improving electricity supply systems in Thulamela Municipality. This chapter contains some concluding remarks about the contribution of this study to stakeholders in general. As a result households are willing to pay for improved electricity supply and services

5.2. Conclusion

Electricity is an essential resource for human economic and social development. As a social economic good the provision of such services needs to go together with policies and legislation that provide a clear direction for implementing sustainable pro-poor policies. People have the right to access and benefit from safe and affordable electricity that enables them to meet their energy needs. Nevertheless electricity is an economic resource. It has a value. The users need to compensate a certain percentage of the value to sustain the provision of quality services. When transparency and accountability are overlooked, inefficiencies such as leakages and unclear pricing against metering occur.

From the results of the study, it appears that people are happy that they are connected to grid electricity, but are not satisfied with the services that they are getting from Eskom and the municipality. This contradicts with the government's

emphasis on quality service provision especially to the poor. Eventually people are tempted to neglect the requirements and start abusing the systems. Awareness is the key component in the domestic electricity provision. Much as we are saying the users have the right to access quality services, they have a role to play to ensure meaningful quality services. For this they need sufficient information about the various aspects of domestic electricity provision, such as how the different metering systems work, what FBE means for them and how energy savings (thus costs savings) can be achieved.

5.3. Major findings and surveys

- The study has found that the level of education has an impact on the development of a particular area. Mostly an uneducated person tends to have less care on what is being done to develop the area. It was found that most of the electricity cables which been destroyed, is due to carelessness particularly by people with limited education and inability to value the grid electricity supply.
- It was discovered that households have an income in the range of R100-R2000; this indicates a high degree of income inequity where few people have higher income while many receive low income. In most families, one person contributes towards the demands of the big family using a lower salary. Due to the lower salary, the family is encouraged to follow the proper in energy grid electricity supply practices. Lack of sufficient money leads people to choose unimproved facilities such as solar, paraffin, gas, candle and firewood as their only source of energy for households chores.
- It is clearly indicated that to transform this community from candle usage is necessary. Candles are the most dominant energy source

used for lighting, and these candles have some negative impacts on human lives. The increasing cost of paraffin has contribution in the manner in which the society chooses their energy source since they cannot afford to buy it on a daily basis.

- Majority of the in the village travel more than 2km in search for firewood. This is a good indication that people have completely over utilized their surrounding woodlands patches and as such they have to travel longer distance to areas where firewood is available. The majority of people are unemployed; they cannot afford to pay for the transportation of their firewood.
- It was found that the municipality does not have enough funds to render electricity to the communities. The backlog regarding electricity supply in rural communities needs a lot of money to address. The demand by the townships and urban residents put more constraints to the municipality to an extent that funds become insufficient to fulfill its obligations.

5.4. Recommendations

- Ward committees that are representative of all the community members, regardless of political affiliation, should be established as guided by the relevant legislation. This is intended to ensure that the community is afforded an opportunity to raise matters affecting them with their leaders who, in turn, must ensure that the municipality receives the issues as tabled. Ward Committees will therefore serve as the communication channel between the municipality and the community. The councillors as part of their

responsibility to serve the community must as part of their performance undertake to convene such meetings and encourage all community members to freely and openly raise issues in the interests of building and encouraging community participation. The councillors must be held responsible and be taken to task if they fail to convene such meetings. The code of conduct must be evoked in the interest of ensuring that they execute their responsibilities.

- Communities should be involved at implementation and decision making levels and in the implementation of projects. Projects are supposed to be part of the IDPs of each municipality. They are intended to achieve the objectives of services available and concomitantly provide the much needed jobs. The Ward committees of municipality must be vigilant in ensuring that projects benefit the communities in which they are located. Communities should benefit directly from programmes in matters such as employment and training. Certain projects can also be coordinated by ward committees to ensure better mechanisms of completion and progress of projects. Moreover, ward committees have to be trained and their involvement will minimise the mistrust prevalent in the community.
- Infrastructure provisioning, management and maintenance need serious attention. The municipality must ensure that knowledgeable
- The Municipality must improve on the management and provision of electricity. The municipal officers must ensure that the electricity vending machines are at all times functional. The maintenance of the machines may be contracted to service providers whose service level agreement will determine their ability and continued contract. The shortage of electrical power points and their accessibility must be addressed through the acquisition of more of them and further ensure that they are located within a walking

distance. The damage that is caused to electrical appliances owing to electricity cuts must be avoided to prevent losses to the community.

- The environmental management issues raised need to be taken seriously into consideration. The provision of toilet facilities must be such that underground water is not polluted. Noting the extent of the under spending of allocations of infrastructure development like sanitation, the municipality must involve direct beneficiaries as a form of their contribution and utilise the services of local builders in building acceptable ablution facilities. The waste removal, disposal and general waste management must keep with the prescriptive legislation on this matter. Members of the public must be encouraged to formally lodge complains in respect to the manner in which the municipality manages its waste. This should be done through public awareness programmes and activities. This will ensure that the health risks facing the community are drastically reduced and healthy living conditions are created.

- Infrastructure provisioning, management and maintenance need serious attention. The municipality must ensure that knowledgeable people are assigned to supervise or monitor the development of infrastructure like roads. This will ensure that value for money is attained. Contract management aspects of the municipality must be reinforced and applicable standard measures be observed. The provisioning of houses must be done in accordance with the stipulated requirements and further ensure that the intended beneficiaries are benefiting. The municipality must also ensure that there is provisioning of recreational facilities. This will serve better

to afford the youth venues for leisure and recreation and assist in the reduction of crime and indulgence in alcohol and drugs.

- The municipality must put better systems into place to ensure effective and efficient spending. The under-spending currently experienced is due to lack of proper planning, management and co-ordination of activities and projects. The community lacks a great deal of infrastructure development yet funds are not spent, which is perceived in a serious manner by the community. To correct the history of under-spending, finances must be controlled for local government development activities. The introduction of Medium Term Expenditure Framework (MTEF) to address the challenges of under-spending will improve financial management.

5.4. Recommendations for further research

Further research in this field is recommended that will enhance and supplement the study on the impact of service delivery in Thulamela Municipality as a third sphere of government. The following research that is not covered in this study is recommended for further study:

- Unlocking the existing resources necessary for the development of the community in order to improve the quality of life, especially the most poor and marginalised sections of the community;
- Improving living conditions through better access to basic physical and social services and health care for the community;
- The control and regulation of the electricity distribution system in the community;
- Promotion of efficient and compassionate delivery of basic health care systems in the community.

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APPENDIX A: the HOUSEHOLDS QUESTIONNAIRE

R100-1000
R1000-2000
R2000-5000
5000 plus

SECTION A: SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS

1. Are you the head of the household?

Yes	
No	

2. How old are you _____

Yes	
3. Are you	

Male	
Female	

5. What is your educational level?

Primary	
Secondary	
Tertiary	
None	

Electricity		
Paraffin		
Generator/Battery		
Solar energy		
Other (specify)		

7. How much is the household earning per month

R100-1000	
R1000-2000	
R2000-5000	
R5000-100000	
10 000 plus	

ELECTRICITY SUPPLY AND DELIVERY

1. Is the village connected to electricity supply?

Yes	
No	

5. If no, how long have you been experiencing for electricity?

One year	
Two years	
Three years	
More than three year	

6. What main source of energy does your household use for lighting cooking?

	Lighting	Cooking
Candle		
Electricity		
Paraffin		
Generator/Battery		
Solar energy		
Other (specify)		

7. What are the main fuels currently used in non-electrified households?

Wood	
Solar	
Paraffin	
Batteries	
Coal	
Gas	

8. Are you using energy for uses other than domestic ones (Such as cooking?)

Lighting	
TV	
Radio	
Irrigation	

9. Are you currently paying for energy supply?

Yes	
No	

11. From where do you get your energy sources?

Mountain	
Solar Radiation	
forestry	
electrified	
Other	

12. How far is the source of energy from your home (in meters?)

50-100	
100-500	
500-1000	
1000-50000	
More than	

13. What time is the energy source the busiest?

Morning	
afternoon	
Night	
No Busy time	

14. Were problems with energy cutoff reported

Energy	
Technician	
Revenue collects	
Traditional Leader	
No problem yet	

Thank you for your co-operation.

Section B: Statement on the challenges faced municipality

Please make a tick in the appropriate block for each of the following statement

statement	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5
The municipality does not have sufficient funds to render electricity to the communities					
Communities are involved in the IDP process of the municipality					
The municipality employees are properly qualified to render quality electricity delivery for community					
Batho Pele principle are core in the delivery of electricity supply services in the municipality					

Thank you for your co-operation

APPENDIX B

ENQ: MAGORO A.S
CELL NO: 076 405 0965

P.O. Box 2560
THOHOYANDOU
0950

22 June 2011

Dear Respondent

Dear Participant

I am conducting a study focusing on: The investigation into the challenges facing Thulamela Local Municipality with regard to the supply of electricity.

The study is conducted in order to fulfill the partial requirements for the Masters Degree in Public Management at the University of Venda.

Kindly note that your identity will be protected as no names are required when completing the questionnaire.

Feel free to answer the questions and ask questions where you don't understand. You must bear in mind that you are in no way forced to take part in this research and thus may choose not to, and you will not be penalized for refusing. Unfortunately no compensation will be given to participants.

Your cooperation in this regard is highly appreciated.

Thank you

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MS MAGORO A.S (UNVESITY OF VENDA)