

Electricity as an energy source: The Impact and Effectiveness of Rural Electrification on Improving the Quality of Life of Households in Rural South Africa. *“A Case Study of the Mount Ayliff District in the former Transkei”*

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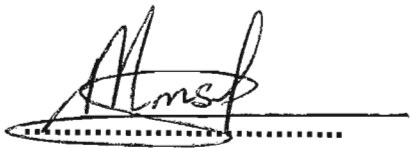
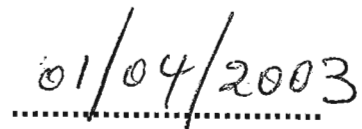


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DECLARATION:

This dissertation represents original work by me (Mabhelonke), the author, and has not been submitted in any other form to another university, other than the University of Natal-Durban. Where use has been made of the work of others it has been duly acknowledged and referenced in the text. However, the conclusions arrived at, are the independent critical thinking and interventions of the author.

The research for this dissertation was performed in the School of Development Studies at the University of Natal-Durban. Research was undertaken under the supervision of Professor Julian May during the period January 2002 to December 2002.

A handwritten signature in black ink, appearing to read 'M. Mabhelonke', is written over a horizontal dotted line.A handwritten date '01/04/2003' in black ink is written over a horizontal dotted line.

DEDICATIONS:

This dissertation, as means of academic excellency, represents a remarkably good example and symbol of life, hence, dedicated to the following people:

- To you my father, the late Pinkerton Langa Sikrweqe, a teacher by profession. My daddy I always know that you were passionate about education and you played a major role in the Department of Education, in the former Transkei (Eastern Cape), hence, your undisputed popularity in this regard, to everyone, will never be forgotten. Let me, let you know that you are still my role model and your endless spirit and soul still exist inside me. I shall never forget you and my entire life achievements and endeavours e.g. this dissertation, are all dedicated to you.
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CHAPTER ONE

INTRODUCTION

1.1. INTRODUCTION

According to the Energy for Development Research Centre (EDRC)- Horvei and Dahl (n.d), "... it is important to understand that underprivileged people of South Africa consider access to electricity a symbol of rights previously denied them. In essence, the electrification of the homes of the poor is becoming an increasingly important issue within development debates in South Africa. Presently, progress is being made to electrify the homes of hundreds of thousands of South Africans who were previously denied access as a result of the racially based structure of the electricity supply industry". Indeed, the RDP (ANC, 1994:31) states that rural electrification has been largely ignored, except for commercial white farms. It also states that future energy policy must concentrate on the provision of energy services to meet the basic needs for the poor households.

Currently, the provision of electricity in rural areas such as the Eastern Cape is in progress. Eskom as a dominant electricity supplier (distributor) in South Africa together with the government have made sure that the provision of electricity is done at a high rate/pace. Nonetheless, it is important to note that there is a problem in this regard because up to now there is very little that has been done in scrutinizing and assessing the impact and effectiveness of rural electrification on improving the quality of life of rural poor within their domestic sector, which happens to be one of the objectives of the African National Congress (ANC) stated in the RDP (ANC, 1994:14).

Research has been done on the role of rural electrification in the service sector such as schools and clinics, but there has been inadequate focus on its impacts and effectiveness in improving the quality of life within households. My research will deal in detail with the latter and will thus contribute to the assessment of the ANC-led government in meeting basic needs and alleviating poverty in rural areas.

1.2. BACKGROUND TO PROBLEM

In the post-1994 period, when the new democratic Government of National Unity (GNU), led by the ANC, came into power in South Africa, the provision of basic infrastructure and

services (such as electricity, water, sanitation, upgrading of roads, telecommunication and so on) in rural areas was prioritised. Indeed, as mentioned earlier, this was the crucial goal of the government cited in the RDP, suggesting the improvement of the quality of life and alleviating poverty in rural areas, as this is a big problem facing rural South Africa. Basically, poverty is concentrated in rural areas when one looks the entire South Africa because many people in these areas lack the basic needs; hence, their standard of living is poor. Moreover, before 1994 there was a lack of basic services in rural South Africa (mostly former homelands) as service provision was concentrated in urban areas. This, however, contributed to the prevalence of poverty in rural areas due to the poor living conditions experienced by the rural poor.

This is an important issue that deserves attention; hence, the goal of the new democratic government was to bring development to the poor citizens. Moreover, the ANC claimed that the provision of basic services would at least enhance the standard of living of the rural poor by alleviating poverty and deprivation. The concern can be found in the RDP (ANC, 1994:1), as it is argued that the RDP is an integrated, coherent socio-economic policy framework that was introduced by the ANC in 1994. Its central objective was to improve the quality of life of all South Africans, and in particular the most poor and marginalized sections of our community.

1.3. OBJECTIVES

It is not my main aim to assess the objectives of the RDP. It happened coincidentally that my objective to assess the improvement of the quality of life in rural areas is cited in the RDP. Hence, rural electrification has been chosen as a concern. In this regard, the Mount Ayliff district in the former Transkei (Eastern Cape Province) has been selected as a case study. If it was my aim to evaluate policy there are other policies that have superseded the RDP such as the Growth, Employment and Redistribution (GEAR), which are recent work. Indeed, the RDP has since been abandoned.

This is an exploratory study not meant to strengthen or disprove theory. There is a broader underlying hypothesis, which the researcher intends to prove. The underlying hypothesis, as the foregoing discussion clearly will bring out, is that, *electricity contributes to the development of the rural poor by improving their standard of living/quality of life*. Moreover,

in reservation the null-hypothesis has also been prioritised. The null-hypothesis states that, *electricity does not contribute to the development of the rural poor because it does not improve their standard of living/quality of life.*

The purpose of this study is to attempt to evaluate the extent to which rural electrification is indeed resulting to a change in rural people's quality of life/standard of living, and if so, what the nature of this change is and the implications it has for the rural poor.

A number of questions flow from this research problem. These constitute the analytical framework for the dissertation:

- Has electrification improved or enhanced the standard of living of the rural poor people?
- Has electrification improved the way of living or households' activities of the rural poor?
- Does electrification create new or better life opportunities for the rural poor people?

In order to answer these questions the following subsidiary questions were used to guide research:

- Are there any other alternative sources of energy that are used by the rural poor?
- If there are any alternative sources of energy available, in comparison with electricity, which source of energy is regarded as the most viable one by the rural poor?
- Why does this source of energy (electricity or the other one available) deserve to be regarded as the most viable one?
- What change (if there is any) does electricity bring to households as a source of energy, being a substitute to others?
- Does electricity need to be complemented by other sources of energy?
- If electricity needs to be complemented, why is it so?
- Is electricity an expense or savoir?
- What effect does electricity have to the cost of living of the rural poor?
- What is the impact of electricity on the domestic activities (chores) of the rural poor?
- What is the impact of electricity on the livelihoods of the rural poor?

- Has electrification altered in any way the survival strategies of the rural poor?

1.4. CHAPTERS OUTLINE

- In Chapter One, an introduction to the study, background to the problem, objectives of the study and why it is an important issue, hypotheses and research questions are provided.
- In Chapter Two, I will provide the theoretical and conceptual framework of the study, thus focusing on rural development, basic needs approach in development and the theory of rural electrification.
- In Chapter Three, I will provide a description of the study area, mainly focusing on poverty and underdevelopment in rural South Africa. The definition of poverty is prioritised first, and secondly the poverty profile of the study area is provided.
- In Chapter Four, I will provide the research methodology that was employed for the study.
- In Chapter Five, I will provide the case study of the research, which is on rural electrification in South Africa. This chapter addresses the improvement in the quality of life of households due to rural electrification. It is the data analysis chapter.
- In Chapter Six, I will provide recommendations and conclusion.

CHAPTER TWO

THE THEORETICAL AND CONCEPTUAL FRAMEWORK OF RURAL ELECTRIFICATION

2.1. INTRODUCTION

This chapter focuses on the theoretical and conceptual context of rural electrification. There is a framework that has been the debate of certain theorists of development. However, one saw the emergence of various theories that concern a lot of issues in development, hence, rural electrification in development of rural areas. By nature, these theories are concerned with the role of electricity in rural areas and its impact on the life of the rural poor.

The first part of this chapter deals briefly with rural development as a concept. The second section deals with 'basic needs' as an important component part of rural development theory with regard to poverty alleviation and eradication. In getting to grips with basic needs, it is thus important to understand the meaning of the concept, as to what basic needs are or what constitute basic needs. The third section focuses specifically on energy as a basic need. The fourth section provides different sources of energy in energy security, which is prevalent in rural areas. The final section explores rural electrification as a concern in rural development aimed at satisfying the basic needs, thus improving the quality of life/standard of living of the rural poor.

2.2. RURAL DEVELOPMENT

Beginning in the early 1970s, many of the alternative development programmes of various aid agencies and international organizations focused on rural development as the key to reducing levels of underdevelopment, increasing access to public goods and services, and lowering poverty and income inequalities in most developing countries. Rural development thus emerged as an issue, as it became clear that previous development approaches had generally failed to improve the well being of the rural poor. Aside from some highly urbanized parts of Asia and Latin America, the majority of the poor in most Third World countries continued to reside in the countryside (Brohman, 1996).

According to Coombs (n.d) this new international consensus called for a massive multi-faceted rural development effort aimed at meeting “basic needs” of the rural poor, with special attention to disadvantaged women, young children and minorities, increasing rural employment and the productivity of small farmers and other rural workers: and the full participation of all people in the development process, and equitable distribution of its benefits.

Harris (1982) argues that this strategy came to be formulated as a result of the general disenchantment with previous approaches to development plans at national and sectoral levels, and it is defined by its concern with equity objectives of various kind, more especially the reduction of inequalities in income and employment and in access to public goods and services, and the alleviation of poverty. It is this focus on its distributional issues, which marked out rural development as a distinct field because an overwhelming majority of poor people in the developing countries of Africa and Asia live in rural areas.

Moreover, Harris (1982) argues that the World Bank defined rural development as ‘... a strategy designed to improve the economic and social life of a specific group of people - the rural poor’. It is more specific in the sense that it focuses (in its rhetoric, and in principle) particularly on poverty and inequality.

Nonetheless, the clearly argued and more comprehensive definition is attained from the useful view of Chambers (1983), as cited by Kallmann (1996:11), where he says that:

- “...rural development is a strategy to enable a specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need. It involves helping the poorest among those who seek a livelihood in the rural areas to demand and control more of the benefits of development. The group includes small scale farmers, tenants, and the landless”.

The definition places people at the centre of development. It focuses on the achievement of concrete goals, as well as the way in which these are defined and achieved. The aim is to transfer more and more power and control to the poor. It is argued that the primary development objective should be to enable the poor to satisfy what they have identified as their needs. Other more general development objectives would then follow naturally (Kallmann, 1996).

2.3. BASIC NEEDS

According to Kallmann (1996:15), as cited by the (ANC, 1994:14), an enormous proportion of very basic needs are presently unmet. In attacking poverty and deprivation, the RDP aims to set South Africa firmly on the road to eliminating hunger, providing land and housing to all our people, providing access to safe drinking water and sanitation for all, ensuring the availability of affordable and sustainable energy sources, eliminating illiteracy, raising the quality of education and training for children and adults, protecting the environment, and improving our health services and making them accessible to all.

Streeten (1981) argues that the basic needs approach means many things to different people. More recently, thinkers and practitioners from many countries, international agencies, and bilateral and aid donors have made meeting basic human needs a primary objective of development, and it has been embedded in many development plans. But fundamentally, it is important to note that to others it represents a fundamental reordering of development priorities, often assigning a leading role to development (Dell, 1979).

Therefore, the purpose of development is to raise sustainable living to the masses of poor people as rapidly as is feasible and to provide all human beings with the opportunity to develop their full potential. This implies (a) meeting the basic human needs of the poorest people in the world and (b) establishing a national and international framework for sustained and self-reliant development (Streeten et al, 1978).

Indeed, Brohman (1996) argues that successful development should be measured not in abstract, aggregated growth indices, but according to other people oriented criteria, such as the universal provision of basic needs, the promotion of social equity, the enhancement of human productive and creative capabilities, and the capacity of communities to set and meet their own development goals. New development approaches should be oriented towards the satisfaction of basic human needs and desires particularly at the local community level; and development projects should build development around people rather than people around development.

The basic needs strategy is concerned with removing mass deprivation, a concern that has always been at the heart of development. This discussion started in the 1950s, strongly

influenced by Sir Arthur Lewis and others, who emphasized economic growth as the way to eradicate poverty. At this early stage, sensible economists and planners were quite clear (in spite of what now often said is a caricature of past thinking) that growth is not an end in itself, but a performance test of development (Streeten, 1981). It is important therefore, to keep focusing on the ultimate objective of elimination of absolute poverty, which requires both acceleration in economic growth, and redesign of public services so that the basic needs of the entire population can be met at an early date (Burki et al, 1981).

Most importantly, Dell (1979) argues that the best-known exposition of a basic needs strategy is that contained in a report submitted in March 1976 by the Director-General of the International Labour Organization (ILO) to the World Employment Conference. It was proposed to the Conference in that report,

- “... development planning should include, as an explicit goal, the satisfaction of an absolute level of basic needs.” In this idea of ILO- basic needs were defined “ the minimum requirements of a family for private consumption.” In this context, they are considered to include two elements:

⇒ Firstly, they include certain minimum requirements of a family for private consumption: adequate food, shelter and clothing, as well as certain household equipment and furniture.

⇒ Secondly, they include essential services provided by and for the community at large, such as safe drinking water, sanitation, public transport, electricity and health, educational and cultural facilities.

It should, however, be noted that in the constituencies of basic needs (above) electricity is mentioned in the package. Electricity as a source of energy and the main concern in this study, it is important to review whether energy is really perceived as a basic need by the rural poor?

2.4. ENERGY AS A BASIC NEED

According to Kallmann (1996) when asked to list their priorities in terms of needs, in addition to income, rural people usually identify access to water, food, healthcare and educational services. These, together with shelter, clothing and sanitation are generally grouped under the heading of “basic needs”. It is often not easy to define the contents of basic needs ‘package’, or to decide when the basic needs are adequately satisfied. The relationship between energy

and basic needs is clearly of importance, as energy itself is often not identified as such a need. It is by nature included in a 'package' of basic goods and services because of the crucial role it plays in the satisfaction of other basic needs. (Examples in this regard will be provided in the following sub-section on energy role and functioning in rural areas)

More similarly to this argument, in the Workshop (1995), it was argued that energy is not a basic need in itself, but the end-uses and the services it provides often meet basic needs, without which life cannot be sustained.

2.4.1. Energy role and functioning in rural areas

The Workshop (1995) argued that energy is fundamental to cooking and hygiene, through water supply, for example, and is therefore an important contributor to basic welfare, and therefore may be considered a right for all people. However, Williams (1995) argues that the basic purposes for which energy is used in rural areas are diverse, and include a range of services (or end-uses) such as cooking, lighting, water and space heating, refrigeration, draft power (for farming transport), shaft power (for water pumping and crop processing), and so on. Nonetheless, as limitations and the context of this study (thesis) focus on the domestic sector it is acknowledged by Kallmann (1996) that households require energy for domestic needs such as cooking, lighting, water and space heating, refrigeration, media and recreation.

Subsequently, serious efforts and interventions should be made to address the welfare of women in rural areas via improved energy supply. Women bear the brunt of hardships in rural areas and there is a need to improve their situation. They generally do not have time to collect wood or water, but have no choice, and may have to sacrifice involvement in productive activities or potential leisure time to undertake these tasks, or use their children to perform these tasks, which can result in them missing school (Workshop, 1995). Indeed, Bembridge (1984) argues that in rural areas women and children spend a considerable proportion of their time on energy gathering such as firewood, animal dung and crop residues to have the fuel they need for cooking and providing heat and lighting, as this is traditionally assigned as their responsibility within the household.

Moreover, in the Workshop (1995) it is also argued that energy supply strategies should focus on stimulating the rural economy by stimulating productive activities in addition to meeting

basic needs. The potential importance of energy's contribution to increasing income and employment levels in rural areas through stimulating productive activities is an essential component of rural development strategies and policies. It is often argued that energy is an essential element of all rural development projects. It has been shown to be particularly important in improving the benefits of other rural investments, and failure to plan properly for energy requirement may weaken the effect of the entire project. It is therefore vital to identify energy needs at an early stage in a project's development so as to ensure that they are included in the project design (Kallmann, 1996).

Kallmann (1996) also argues that in theory, the provision of energy to a rural development project is not different from the provision of other necessary inputs. In practice the energy part of rural development has some unique features that call for special attention:

⇒ Energy is an essential input to all rural activities. It is essential, however, that energy supply options should be integrated into each rural development project, and all energy supply and technology options should be considered.

⇒ Information about rural energy systems and use patterns only began to be gathered recently and there is still little understanding of these parts of rural economy.

⇒ New energy supply options, such as rural electrification often require large capital expenditure and special skills, and take longer to develop and carry out than many other infrastructural projects.

2.4.2. Energy Security

According to the Workshop (1995), although the emphasis in debates on rural energy provision is often placed on electricity supply, it must be remembered that other fuels will continue to play an important role in rural areas (for example paraffin, LPG/gas, wood and so on). Participants in the Workshop critically regarded the situation in many rural areas. Energy-specific problems mentioned were as follows:

- ◆ Some people in rural areas have insufficient energy for basic cooking needs, and so go hungry.
- ◆ People usually have limited money to purchase fuel and cannot afford electricity.
- ◆ The old and infirm in particular suffer as they cannot collect wood for themselves, nor do they have funds to pay others to do so or to purchase commercial fuels.

- ◆ Safety of current energy sources is a problem (primus stoves were mentioned in particular).

Energy security clearly shows that there is a range of alternative sources of energy that is seen in rural areas. It is important therefore, to introduce these alternative sources and their roles and consumption patterns that they implicate to the rural poor.

2.5. SOURCES OF ENERGY AND CONSUMPTION PATTERNS

According to Thom (1995b) energy use patterns by rural people are determined by a complex and interlinked set of factors, which are principally the products of rural poverty, neglect and underdevelopment. Examples of such factors are: the economy of the area, which in turn affects the financial situation of farmers and the job opportunities of rural people; rural people's attitudes and traditions; bio-climatic factors; and the proximity of energy sources.

2.5.1. Prevalence of Different Fuels

Davis and Ward (1998) identify wood, paraffin, dung, coal and candles as the most widely prevalent fuels used by rural households. Moreover, Kallmann (1996) also mentions electricity, Remote Area Power Supply, Petroleum-based fuels (paraffin included), as other sources that form part of the package of energy sources more likely to be consumed by rural people.

2.5.2. Consumption Patterns¹

Electricity

Kallmann (1996) argues that in rural areas grid electricity is supplied primarily by Eskom and indirectly by municipalities and former homeland utilities, whose rights of supply have all almost been taken by Eskom. Davis and Ward (1998) argue that there are clear income trends with higher income households more likely to have access to electricity, and this is a consequence of past electrification policies.

¹ This section is drawn from the work of Kallmann (1996) and Davis and Ward (1998). It should be noted that the information composed by these authors has been drawn largely on the work of Thom (1995b), Williams (1995), Mammon, N, Simmonds, G and Van Horen, C (1995) and Van Horen, C (1995). Other detailed discussions are found in Cowan (1991) and Davis (1995).

In terms of consumption patterns it is difficult to separate out the effects of access to electricity from those related to income. In fact, it appears that many of these effects are mostly found to be present or stronger in higher income groups. Low-income electrified households appear to have fuel choice patterns similar to those of unelectrified households, and electricity appears to be an additional fuel and an additional expense for those households. Fuel switching towards electricity is generally only evident in any substantial way in wealthier households. Moreover, electricity appears to displace other fuels (i.e. wood and paraffin) for cooking, although this trend is only observed to a great extent in the highest income group. Ownership of electrical appliances appears to be closely related to income. With the exception of radios, electrical appliances penetration in the lowest income group is around 10-20% (Davis and Ward, 1998:12).

Remote Area Power Supply

Private firms generally supply Remote Area Power Supply (RAPS) systems, mostly in the form of solar or photovoltaic (PV) systems. The solar system is used in rural areas as an alternative source of energy to electricity and other sources of energy. At present, there are no established technical guidelines for such systems, or any industrial code of conduct. Prospective buyers have to deal with any of the numerous private suppliers in a totally unregulated environment. Eskom has established a tariff, which enables it to supply and maintain RAPS systems in remote areas. To date Eskom has not gone much beyond piloting RAPS systems, and this tariff is not widely used (Cowan, 1991; Davis, 1995 and Kallmann, 1996).

In essence, the RAPS systems are scarcely used in rural areas. Only the people who accessed them during the time when Eskom started piloting projects of the RAPS use it. But then, grid electricity substituted this activity in a great deal. Now grid electricity supply in which Eskom is a sole distributor is more prevalent. The high-income people have narrowly used the solar system in rural areas when electricity was not yet available. This source of energy has been used mainly for lighting and playing radios and television sets.

Petroleum-Based Fuels

Through depots private oil companies supply paraffin, candles, gas, diesel, petrol, coal and batteries, which are sold in bulk at wholesale prices. So-called routers then distribute the fuels to the retailers, which in rural areas include spazas, farm shops, general dealers, white commercial farmers, agricultural co-operatives and petrol stations in rural towns. Candles are supplied along with other standard commodities available in rural shops and spazas (Kallmann, 1996).

According to Davis and Ward (1998:5) paraffin is one of the most widely used fuels in rural households, as much as 82% of all households were found to use it. Although there are regional and income differences, it is apparent that it is widely used in all regions and by all income groups. It is also apparent that electrified households are less likely to use paraffin and this is accentuated by income: high-income households are less likely to use paraffin. This fuel is mainly used by unelectrified and low-income households, mainly in the following domestic activities: cooking, lighting, heating water and heating home.

Candles are also widely prevalent, 74% of all households in rural areas use them. It is interesting to note that as much as 5% of electrified households use candles (Davis and Ward, 1998:5). Although some electrified households may use candles as back-ups, the expenditure figures indicate that their use is more extensive and may be because not all rooms in the house or homestead have electricity. This source of energy is prevalent in all income groups in unelectrified households, of course for lighting, as is self-explanatory.

Coal is not extensively used in rural areas of South Africa, although there are significant regional variations. This source of energy is extensively used in regions where coalfields are found, for example, Qwaqwa and Lebowa. It is scarcely used in places such as the Eastern Cape province. In the coal rich regions this fuel is mainly used for cooking and heating. It is evident that the rural distribution network is not extensive (Davis and Ward, 1998). Mainly the wealthier people use petrol and diesel in unelectrified households. Even in electrified households the better-off people, for lighting only, use these sources of energy as back-ups.

Liquid Petroleum Gas (LPG) is not widely used, 8% of all rural households use it, although the extent of its use increases with income in both electrified and unelectrified households and

in all regions. (Davis and Ward, 1995:5). This type of fuel is mainly used by the high-income people in unelectrified households for cooking, heating and lighting. Some of the electrified households use it for cooking and heating as a complement to electricity. Batteries are mainly used in unelectrified households, as a source of energy for radios. The electrified better-off households, mainly for playing television and music sets, also uses car batteries.

Fuel Wood²

Kallmann (1996) argues that indigenous woodlands are the primary sources of rural energy. These are under heavy pressure, with the situation varying from area to area. Most fuel wood in rural areas is still collected by individual households, and women in particular, although there is a growing informal trade in many areas. Davis and Ward (1998) argue, however, that wood purchasing declines with household's income, but only in electrified homes. There are clear income trends per se with higher income households much less likely to collect wood. This source of energy is mainly used for cooking, heating water and heating the home in low-income and unelectrified households.

There are important consequences in the scarcity of fuel wood- increase in the distance walked and heavier head loads, both of which place considerable stress on the physical well being of women who make an average of three trips per week, each lasting between two and six hours. Moreover, very high air pollution levels from open wood fires lead to high respiration illness- five times higher than those experienced by urban households using electricity (Kallmann, 1996).

Dung

According to Davis and Ward (1995:5) dung does not appear to be widely used as a fuel (it is used in 4% of households). Although this may be because of their questionnaire respondents in their study, where limitations were said to be mentioning two fuels per end-use. It appears that the prevalence of dung as a fuel in Transkei and Ciskei is much higher than for other regions. The poorest households use this type of fuel, mainly for cooking, heating water and heating the home.

² As cited by Kallmann (1996), for detailed work on the debate around the fuel wood crises see Eberhard, A.A, 1992; Ross, F, 1993; Aron, J, Eberhard, A.A and Gander, M.V, 1991 and Thom, C and Banks, D.I, 1994.

Multiple-Fuel Use Patterns

According to Annecke (1993), Cecelski (1992) and Cecelski and Glatt (1992), as also cited by Davis and Ward (1998), it is clear that the majority of households utilize a number of different fuels. In many cases different fuels are selected for different end-uses, and it is common for a household to use two or more fuels for one application (especially cooking).

The analysis of multiple-fuel use patterns shows that compared with unelectrified households, high-income electrified households are more likely to rely on one fuel only (electricity) whereas low-income electrified households are more likely to rely on four or more fuels. The concern together with evidence described above, suggests that electricity only displaces other fuels in higher income homes. It is appearing to be an additional fuel in low-income households.

Having established the prevalence of different sources of energy in rural areas with regard to energy security, a closer look at rural electrification is necessary. Rural electrification is one of the supply options in energy security for the provision of electricity in rural areas. This electricity is one of the powerful sources of energy that can improve the quality of life and standard of living of the poor people, as mentioned earlier. Nonetheless, this will be dealt with in detail in the following section of the chapter.

2.6. RURAL ELECTRIFICATION

According to Foley (1990:vii) for rural people of the Third World, rural electrification means modernity, progress and, above all, light in the darkness. Governments see it as the key, which will unlock the development potential of their rural areas and put an end to the crushing poverty of subsistence farming. Everywhere, there is a hope that the scope and pace of rural electrification programmes can be increased.

Rural electrification also has its opponents, as reviewed by Kallmann. They regard it as a deviation of development funds from more important areas. They accuse it of benefiting only the rich, adding to the 'Third World' debt burden, depleting fossil fuels and contributing to the greenhouse effect. They also say that its claims to be an agent of rural development are

untrue (Kallmann, 1996). Nonetheless, James (1998) argues that rural electrification programmes are rationalized on the basis of a range of perceived rural development benefits. The expected benefits that may arise from a rural electrification programme can be categorized broadly into those which result in improved social and environmental conditions and those that lead to economic development.

The most often/frequent stated objectives of rural electrification, as mentioned by James (1998) are listed in Table 2.1 below. There is an inter-relationship between social, economic, political and environmental objectives.

TABLE 2.1. OBJECTIVES OF RURAL ELECTRIFICATION

Economic Objectives:	<ul style="list-style-type: none"> • To act as a catalyst for, stimulate and/or encourage diversity of agricultural, industrial and commercial development in rural areas. • To reduce more costly energy sources such as kerosene for lighting, diesel for individual motors, irrigation pumps and generators. • To improve the standard of living of the rural poor.
Social Objectives:	<ul style="list-style-type: none"> • To improve the quality of life through such means as improved quality of light and use of domestic appliances, resulting in time saving particularly women. • To improve healthcare, education and community facilities. • To stem migration from rural to urban areas. • To address urban/rural bias and correct regional imbalances.
Political Objectives:	<ul style="list-style-type: none"> • To improve security and political stability.
Environmental Objectives:	<ul style="list-style-type: none"> • To reduce indoor air pollution from fires and stoves. • To reduce deforestation by replacing firewood or charcoal.

Source: (James, 1998)

Kallmann (1996) argues that it must be noted that the political objectives of rural electrification programmes in various countries do provide major impetus for the allocation of funds to rural electrification programmes. Politicians and governments may also have agendas, which are different from those of rural development programmes.

2.6.1. The Role and Impacts of Domestic Electricity

According to Stavrou (1991) the impact of domestic electricity goes beyond the everyday convenience of turning on a light, a stove, a refrigerator and a colour television. Safe drinking water, telephone services, healthcare and modern educational facilities and methods, to mention a few, all rely on dependable electricity service. Electricity is one of the cheapest, safest and most commonly used energy sources. It is essential for development and individual, social and economic expansion.

Saunders et al (1978) argue that all use of electricity was household use and this was limited almost entirely to lighting, ironing and radio listening. Most of the household functions measured by the level of living scale refer to activities engaged in by the female members of the family such as dishwashing, cleaning, cooking and food storage. Indeed, this happened in America with the result of the proviso of rural electrification to poor rural households. It is evident in the US that rural electrification has had a significant impact in rural areas. In any case, it should be noted that rural areas in the US are very different from African rural areas because they are more developed. The availability of electric energy has meant labour saving electrical appliances could be used within the home, alleviating burdens of the homemaker and permitting her to engage in other activities with the time thus saved. Especially, in certain types of agricultural operations, such as dairy and poultry production, electricity has become an important, if not indispensable, factor in the efficiency of production.

It is safe to say that rural electrification in the US contributed substantially to the improvement of the quality of life in rural areas and to the efficiency of agriculture production. The introduction of electricity into homes and onto farms resulted in ever more diverse uses for electricity in rural areas- (has both social and economic impacts).

Anneck (1998:12), most importantly, has compiled a lengthy list of potential social, health, educational and environmental benefits in which electricity might play a role: improved living

standards, improved quality of life, reduced burden on women, household and community lighting, improved educational services, use of electric pumps, lower fertility rates, reduced crime, alleviation of environmental pressures, reduced urban migration, replacement of more costly sources and addressing of urban/rural imbalances.

The role of electricity in economic development is a subject on which experience is almost as long as the history of economic development itself. It is not as though the contribution of electricity to human welfare has been confined only to the industrial sector and in the production of goods and services moving through the marketplace, but its importance has grown in uses in the household in a variety of ways (SAIEEW, 1991).

For example, the invention of the television in the mid 1930s resulted in another dimension of electricity use that altered the manner in which human beings entertain themselves in their leisure hours. And, of course, a whole lot of new applications have emerged by which television has been able to perform a vital function in the dissemination of information and in the spread of education.

Unfortunately, the spread of electricity use in rural households is still constrained by economic factors and low incomes of rural consumers as well as by unreliable and poor quality of electricity supplies. Nevertheless, a major change is taking place with rural consumers adopting and imitating consumption patterns followed in urban areas, and increased ownership of domestic appliances in rural homes (SAIEEW, 1991).

According to (Smith, 1998) the introduction of electricity does not automatically stimulate economic growth. Its effect is dependent upon a number of complementary factors, including the level of development in the area, the availability of capital and other resources, and access to markets. Nonetheless, Smith noticed a few things that the realities of electricity to low-income households do provide:

- ◆ Grid electricity is a much cheaper power source than batteries for radios.
- ◆ Households can make significant financial savings on energy expenditure when they obtain mains electricity, as noted by a villager in the town of Vacas in Bolivia: "Electricity is very important and cheaper" (Smith, 1998:3).

- ◆ Electric lighting makes it easier for children to study in the evenings. Kallmann (1996) similarly argues this fact, as listed by families throughout the developing world as one of the major benefits of electrification. This, for example, was the verdict of 80% of the families responding to a survey of the social impact of rural electrification in Malaysia. Smith (1998) argues that this is a particular benefit to low-income households as they are unlikely to be able to afford the cost of lighting, for this purpose, from other energy sources.
- ◆ In some circumstances, the provision of electricity to low-income households will reduce their consumption of wood.
- ◆ The poorest households use electricity for just one or two light bulbs. Those with slightly higher incomes use more lights and low-cost appliances with low power consumption such as radios and fans. Electricity usage is generally higher in urban areas than in rural areas, as cash incomes are higher.

Rogerson (1998) argues that at the international scale, it is argued that whilst rural electrification encourages the “modernization” of existing rural Small-Medium and Micro Enterprises (SMMEs), it exerts only a modest stimulus for the growth of new enterprises. Claims that rural electrification will stimulate major new rural SMMEs development are often exaggerated. The international literature on rural SMME development highlights such critical issues as access to finance, skills training and markets.

Moreover, reviewing several studies on the impact of electrification on SMME development Rogerson observed, convincing evidence of increased economic activity and higher living standard. The arrival of electricity supply in certain areas seems to be a crucial factor in precipitating decisions by local entrepreneurs to invest in a variety of productive enterprises. The identified productive uses include lighting and refrigeration in small shops and service activities, and for lighting, heating and motive power in rural workshops such as carpentry, welding and repair shops. Consequently, in the results of a World Bank study in Indonesia it was found that new SMME service activities such as beauty parlours, photocopying, ice making and battery charging came into existence after electrification. In rural parts of Indonesia some shoe workshops shifted to use of electrical machines instead of manually operated machinery with an associated enhancement of productivity.

2.7. CONCLUSION

Firstly, basic needs fulfilment plays a major role in rural development. It is important in its focus on alleviating absolute poverty, which is a major constraint in which the majority of the rural poor tend to find themselves trapped. It is also important that focusing on meeting basic needs implicitly involves every citizen in the local community, whereas focusing on inequality excludes some of the individuals that are better-off. However, tackling the basic needs, by its nature, results in the sameness of the local people because the basic goods and services that are provided for the community are purposely engaged in for the benefit of the entire population in the local community without anyone being left out.

Secondly, it is important to make critical conclusions on the question that is often asked, whether energy is really a basic need? As mentioned earlier, energy by itself is not clearly regarded as a basic need. But what is important is that it plays a major role in the satisfaction of a range of other basic needs, and without them life cannot be sustained. With regard to the rural economy, the potential importance of energy's contribution to increasing income and employment levels in rural areas is acknowledged through stimulating productive activities, as this is an essential component of rural development strategies and policies. This is of much importance in the sense that energy is an essential input and ingredient in all rural projects and activities aimed at benefiting the rural poor through poverty alleviation and eradication. Indeed, all in all, energy is a basic need, which must be included in the package of basic goods and services accrued to the rural poor in achieving rural development and/the betterment of humankind and quality of life.

Lastly, it is clear that the context of rural electrification is framed within social, economic, political and environmental objectives of development. Premised in this environment the results of rural electrification are subject to poverty alleviation through the enhancement of the quality of life and standard of living of the rural poor in meeting basic needs for achieving rural development.

CHAPTER THREE

POVERTY AND UNDERDEVELOPMENT IN RURAL SOUTH AFRICA

3.1. INTRODUCTION

This chapter provides the description of the study area in terms of its developmental situation. It is well known that when one views the entire South Africa, poverty is concentrated in rural areas. In South Africa the provinces such as the Eastern Cape are largely rural and have a high concentration/degree of prevailing poverty that needs immediate attention in order to ameliorate the situation. It is, thus, important to understand the nature of poverty in rural areas before any interventions are made in trying to correct the situation. In this chapter, the nature of poverty in rural South Africa, using the Mount Ayliff district in the Eastern Cape (Transkei) as a case study, will be the main focus.

The first section of this chapter deals briefly with the definition and description of poverty as a concept. The second part deals with the basic poverty profile/nature of poverty of the rural Eastern Cape. The third, which is the last section, provides the case study of the Mount Ayliff district, with regard to poverty and underdevelopment of the area.

3.2. DEFINING POVERTY

According to Hirschowitz (2000) poverty has been defined in a variety of ways both nationally and internationally. In this dissertation, poverty will be reviewed in a similar manner to that of the United Nations (UN) development reports, which incorporates a broader perspective rather than merely the extent of low income or low expenditure in a country. Poverty therefore will be seen here as “ the denial of opportunities and choices most basic to human development to lead a long, healthy creative life and to enjoy a decent standard of living, freedom, dignity, self-esteem and respect from others” (Hirschowitz, 2000:29).

While household expenditure is taken as an important component of poverty in this dissertation, a variety of other variables are related to this expenditure level, with regard to

both individuals and households: for example, type of housing, access to clean water and sanitation, energy consumption patterns, health, education and employment.

The above description of poverty clearly shows that aspects of poverty are the result of the lack of basic infrastructure and services that can at least give a minimum standard of living. In formulating the poverty profile, therefore, the nature of the profile should entail the lack of basic services, as mentioned above.

3.3. BASIC POVERTY PROFILE OF THE EASTERN CAPE

The Eastern Cape is one of the most destitute provinces in South Africa. In terms of the former division of the country into Development Regions, Region D, which formed the core of this province, was deemed in 1981, to be the most deserving of state support and the targeted regional development assistance at the time (Nel, 1999: 85). The findings of the World Bank Study on poverty established that the Eastern Cape has the country's greatest concentration of poor people, which is 67% of the total population living in rural areas (Nel, 1999: 85). What was discovered is that poverty is mostly focused on the former homeland areas and secondly within the former 'black enclaves'. In the former Transkei, 92% of that area's population were regarded as poor. Hence, 60% of the children were living under the 'breadline' (Nel, 1999: 85). The province at large has long been at the bottom of the scale in terms of human development.

The Eastern Cape constitutes 169 580 km², 14% of the total land area of South Africa. The province has a population of 5 865 million which can be broken down into 2 703 million males (46%) and 3 162 million females (54%). It is a home to some 16% of South Africa's total population. The population density is 38,2 people per square kilometre. Moreover, most households are female headed and designated to be the poorest (Madikizela, 2000:6).

Madikizela (2000:7) also argues that the Human Development Index (HDI- the level of development of the population calculated on the basis of life expectancy, education and income)- for the province is 0,506 (original source not stated). The index is used to place human progress and human deprivation into perspective. The 0,506 level of HDI for the province is lower than the 0,7 for the whole country and it places the province at a medium scale in terms of human progress. There are probably marked regional inequalities within the

province itself. For example, the Wild Coast District Council (Alfred Nzo), where the study area Mount Ayliff is located has a HDI of only 0,20. This is not surprising because nationally, levels of human development and quality of life differ across geographical regions (as well as across race and sex). At a national level for instance, the HDI for Africans is 0,50 as compared to 0,66 for Coloureds, 0,84 for Asians and 0,90 for Whites. For the Eastern Cape, the HDI for Africans (the poorest in the province) ranges between 0,08 and 0,36 (Madikizela, 2000: 7).

Moreover, the Community Development Index (CDI), a measure of the level of human development within communities used to assess the needs for such development, is 5,2 in the Eastern Cape (Madikizela, 2000: 7). This suggests that the need index is greater than the average on a scale of 0 to 10 (with 5 being the average and Zero indicative of a high level of needs). Therefore, the province is given a low priority in terms of funding to promote human development. Most importantly, closely linked to CDI is the Development Potential Index (DPI), which assess the level of development investment in infrastructure and services, which is 3,5 for the province (Zero development potential is also of low priority in terms of funding requirements for promoting human development). However, this clarifies the poor level of development investment attraction to the area (Madikizela, 2000: 7).

On a range of other key indicators, the province features very poorly. It has the lowest labour participation rate of all the provinces (42,6%), the second lowest labour absorption capacity (44,8%), the third highest de jure unemployment rate (23, 6%), the highest level of male absenteeism (31,3%), the second highest dependency rate (3,7), the second lowest nominal GGP (Gross Geographical Product) per capita rate in the country (R2 317), the second lowest personal income per annum (R1 358), and the lowest life expectancy (59,6 yrs) (Nel, 1999:86).

According to Nel, a survey of prevailing unemployment levels in the rural areas in the Eastern Cape reveals just how serious the current situation is. This is revealed in Table 3.1 below. Although these figures only relate to the formal sector, the seriousness of the unemployment situation remains grave.

TABLE 3.1. UNEMPLOYMENT LEVELS IN THE RURAL DISTRICTS OF THE EASTERN CAPE (formal sector)

REGION	% RANGE OF UNEMPLOYMENT
Western E. Cape	9,1-16,4%
Former Ciskei	41,8-45,3%
Border/NE. Cape	8,4-32,5%
Former Transkei	17,7-84,8%

Source: (Nel, 1999:86)

The bleakness of the prevailing poverty situation in the Eastern Cape is also revealed in Table 3.2 below, which compares the percentage of rural African people living in poverty in various provinces.

TABLE 3.2. PERCENTAGE OF RURAL AFRICANS LIVING IN POVERTY

PROVINCE	% OF AFRICANS
Western Cape	0,0
Northern Cape	50,0
Eastern Cape	86,4
KZN	64,3
Free State	78,8
Eastern Transvaal	53,6
Northern Transvaal	75,6
North West	57,4
Gauteng	9,1

Source: (Nel, 1999:89)

Indeed, by looking at the above statistics the Eastern Cape is the poorest province in South Africa, with the highest percentage (86,4) of people (Africans) living in poverty. Nevertheless, it should be noted that the rural women are particularly hard hit by prevailing poverty and unemployment levels and are the most urgent in need of support and assistance.

3.4. A CASE STUDY OF THE MOUNT AYLIFF DISTRICT: POVERTY AND UNDERDEVELOPMENT

3.4.1. The Study Area

The Mount Ayliff district is located within the territory of the former Transkei in the Eastern Cape province of South Africa. Figure 1 (below) shows the exact location of the Study Area.

Figure 1. Location of the Study Area: The Mount Ayliff District (Eastern Cape)



Source: (www.azania.co.za, 1997)

As argued earlier in this chapter, the Energy for Development Research Centre (EDRC) (1995) also argues that the Eastern Cape is one of the poorest provinces in South Africa, because of the lack of basic infrastructure and services. The Mount Ayliff district is in Transkei, which is the largest part of the rural Eastern Cape. Much of the poverty experienced today in the Transkei is because of the fact that, as one of the former homelands it was excluded in the past by the apartheid government in terms of the provision of infrastructure and services, because it was a Self-Governing Territory (SGT). Homelands in general lacked the resources to maintain the unlimited needs of their massive populations. After the incorporation of these areas into the Republic of South Africa, it became glaringly obvious that they had a high concentration of poverty. Indeed, many people within these areas nowadays lack the minimum standard of living, as there is massive unemployment and lack of basic services (such as water, electricity, sanitation, roads and so on) that can at least provide them with a basic standard of living.

As is claimed in the RDP (1994) document, if our government is confident about achieving its goals in alleviating poverty and improving the quality of life of the rural poor (like the people of Mount Ayliff) it must target these areas by at least providing them with basic services first, so that their basic standard of living is attained. If at least the basic standard of living is met, then this will indicate an amelioration of poverty in these areas.

The following section provides the implications of poverty and lack of basic services in the Mount Ayliff district. These are the basic statistics on the poverty profile of the area, showing clearly the extent of infrastructure and service backlogs that need immediate attention in improving the quality of life of the rural poor.

3.4.2. Basic Statistics on Poverty Profile

According to the EG Kei (Alfred Nzo) District Municipality Interim Integrated Development Plan (IIDP) (2001/2002) the following are statistics with regard to the level of development of the Mount Ayliff district:

Population Profile

- ◆ The District Municipality has a population of 543 996 (source of statistics: Demarcation Board of the year 2000) of which only approximately 25 000 or 5% live in urban areas (small rural towns/villages).
- ◆ Approximately 56% of the population is female, indicating male absenteeism where males are working elsewhere in South Africa.
- ◆ Approximately 40% of the population is below the age of 19, indicating a young population.
- ◆ According to Madikizela (2000:81) the population density of Mount Ayliff is between 0,71 and 0,89 people per hectare.

A summary of the socio-economic circumstances

- ◆ According to Hirschowitz (2000:29) the people are very poor with an average annual income of R8 582 per household or R715 per month. The poverty line of Mount Ayliff is estimated at R800 (or less) per household (per month). The imputed mean monthly household expenditure is R 861. When one looks at these figures the best conclusion is that people in this area are very poor, because at R715 per month the income is far below the poverty line [R800 (or less)], and the Imputed Mean monthly household expenditure is also higher than the monthly income. Indeed, the standard of living in this area needs to be improved at all possible costs.
- ◆ Only 34% of the economically active population (over 15 years of age) is employed.
- ◆ 54% of households are dependent on remittances.
- ◆ 45,6% of household income is spent on food only- compared to only 54,4% that is spent on other important household needs.
- ◆ A lot of people (about 2/3) are regarded as being landless because they do not hold title to the land (75% of the total population).
- ◆ According to Madikizela (2000:87) Mount Ayliff has an estimated total degraded land area of about 900 km².
- ◆ About 50% of households do not have livestock. This is an important source of income for the people as it can be exchanged for other resources as well as basic goods and services where people are unemployed and have no monetary income.

- ◆ Access to basic services, for example, water, sanitation, electricity and roads is poor. There are clearly seen service backlogs: approximately 71% of households do not have access to clean water and approximately 98% of households do not have access to sanitation.
- ◆ Low educational levels: an illiteracy rate of 72,3% of the total population.
- ◆ A poorly developed economy which contributes only 1,2% to the total South Africa's Gross Domestic Product (GDP).
- ◆ Agriculture and services are the most important economic sectors but their performance is very poor (But the figures are not stated in the IDP).

3.5. CONCLUSION

It inevitably cannot be disputed that the Eastern Cape is the poorest province in South Africa. By looking at the nature of poverty profiles of the province and the Mount Ayiliff district, in particular, they clearly show that there are major infrastructure and service backlogs in many rural areas of South Africa. The prominent conclusion that can be made subsequent to this is that the majority of the people in rural areas lack basic needs, thus their quality of life/standard of living is poor. It is essential to note that provisions of infrastructure and services such as water, sanitation, electricity, roads and employment are considered a priority, to at least provide the people with a minimum standard of living.

As electricity has been currently prioritised in rural areas, it is important to start assessing and finding out if ever there is any change in the quality of life of the rural poor as they gain access to electricity. This is the main priority of this study (dissertation), as mentioned earlier. The entire scenario will be scrutinized in chapter five, which focuses on the impact and effectiveness of rural electrification on improving the quality of life in rural South Africa.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. INTRODUCTION

This chapter on research methodology provides the techniques that were used in conducting the research. Firstly, a literature review was conducted in order to formulate the theoretical and conceptual framework of the study. This is regarded as a secondary source of data. Secondly, research interviews were conducted in the field in order to obtain valid and reliable information pertaining to the research subject. It was necessary to draw upon empirical evidence to approve/link theory. The interviews are regarded as a primary source of data. Moreover, other aspects of the research will also be provided, such as the detailed research process and time frame; and also the scope and limitations of the research.

4.2. SECONDARY SOURCES OF DATA

Msezana (1997), like Moser et al. (1985), points to the fact that it is no use hurrying into field research without first consulting relevant and necessary books, journals and other useful secondary material. In my research the assistance from the municipality in the Mount Ayliff district has been useful to elicit information. The municipality together with the district council (Alfred Nzo), that is the local government of the Eastern Region of the Eastern Cape, assisted me in this regard. The Mount Ayliff district is the part of the Eastern Region of the Eastern Cape where the branch headquarters of the Alfred Nzo District Council are located. The council is responsible for major developments within the Eastern Region. It became located in Mount Ayliff in the post-1994 period when major developments (such as infrastructure provision) were brought into the area.

There were no interviews conducted with office bearers of the municipality and the district council. They only provided me with the Interim Integrated Development Plan (IDP) of the municipal area. The information from the IDP was useful in assessing the background of the area. Moreover, in this regard other relevant sources from the library such as books, journals and theses were also consulted. These sources of data were useful in the formulation of my theoretical and conceptual framework. Msezana (1997) argues that the secondary sources of data are indispensable in developing a conceptual framework.

4.3. PRIMARY SOURCES OF DATA

My research is a “case study” focusing on the rural areas of the Mount Ayliff district in the former Transkei, as it was mentioned earlier. To gather information in the area, semi-structured in-depth interviews were conducted with members of different types of households within the area, who responded to face-to-face open-ended questions. These different types of households were assessed according to their responses to electrification, which is aimed at improving their way of living and the domestic activities of households.

This will in part be a comparative study because some of different types of households will be subject to comparison, regarding their respective responses to electrification. For example, in Table 4.1 below, as is clarified in Appendix 1 (Basis for Argument), can be noted that some of the households in the grid (i.e. Electrified households running a business and Unelectrified households running a business, and also Electrified households with schooling children and Unelectrified households with schooling children and so on) can be compared and contrasted.

The following table is a grid, showing the different types of households that were interviewed:

TABLE 4.1. HOUSEHOLD TYPES AND NUMBER OF INTERVIEWS PER GROUP

	Electrified	Unelectrified
A.	Schooling children [1]	Schooling children [1]
B.	Illiterate household Members [2]	Illiterate household Members [2]
C.	Running a Business [1]	Running a Business [1]
D.	Using electricity Only [2]	Using alternative Sources of energy [2]
E.	Using complementing Sources of energy [2]	
F.	Single Female-headed Households [2]	
G.	Single Male-headed Households [2]	
H.	Unemployed Household Head [2]	

4.4. RESEARCH PROCESS AND TIMEFRAME

Households that were interviewed are widely spread all over the Mount Ayliff district in distant local communities. Households within these local communities were randomly selected. Most importantly, these households were consulted by appointment in advance. In identifying the different types of households within the area the members of local communities were helpful. They are the ones who introduced me to these households. The researcher’s knowledge about the area was also an advantage because he also lives in Mount Ayliff. Regarding the household types it was not a problem to identify the people pertaining to a particular group because when looking for a household the researcher would just ask for assistance from the members of the local community, who in turn referred him to a relevant household needed. Since there were many households that were identified per group of household types the researcher then chose one household to be interviewed out of the large number that was identified. The illiterate people were determined by looking at the education standard/level of the people. In this case, people who have not attended school were designated as illiterate and were interviewees in this study.

The interviews were conducted with household members as focus groups (including household heads together with other household members e.g. children and other people residing within the household) within their homes. These interviews were conducted in a

partially informal manner, hence, monitored uncontrolled chatting was engaged on in order for the people not to feel confined. This, however, helped the researcher to get detailed information, as people were able to express their views. Interview questions are included at the end of the dissertation as an appendix (Appendix 2).

Approximately a two-month period (June-August, 2002) was spent in the study area gathering information from various households. A maximum time of 2-3 hours was spent with the household when conducting an interview. A total number of 20 interviews were conducted. As shown above (Table 4.1), only two interviews were conducted per household type group except for interviews with schooling children and households running businesses, in which only one interview was conducted with these household type groups. In these groups, the researcher opted for a strategy more like a case study. For example, regarding schooling children, the scholars of a particular school in Mount Ayliff was selected. The children were grouped according to those who have access to electricity at home and those who do not have access to electricity. After identifying the two separate entities the researcher then asked questions to the children, who in turn supported each other in providing answers. Approximately twenty children were in each of these groups. In the case of households running businesses, only two households were selected with one interview per household type e.g. electrified household running a business and unelectrified household running a business.

The reason why the researcher conducted only a small number (20) interviews is that pilot research was performed before the actual research, where he assessed the relevance and validity of the information. In this pilot research, face-to-face conversation was employed, with the information jotted down on a paper for transcription (for use in the actual main study). During this stage, approximately 5 interviews were conducted per group of household types, with approximately one hour spent with a member (household head) belonging to a particular type of household. The information that was obtained from separate households of the same group was more similar. This resulted in the researcher making generalizations and assumptions that all households of the same type/group are similar in their way of living and also their way of doing things. With regard to detailed subsequent interviews the answers from the interviewees were also written down on the paper.

The author of the dissertation was also the sole researcher in this study. As mentioned earlier, the researcher was born in Mount Ayliff; hence, there was no problem in terms of the

language barrier. The researcher is also Xhosa speaking like the people of Mount Ayliff. However, there was no problem with translation of the questions to the interviewees such as the illiterate people. It was even more convenient in dealing with the literate people because questions were asked in English, with translation into Xhosa an alternative if people failed to understand a question.

4.5. SCOPE AND LIMITATIONS OF THE STUDY

This dissertation seeks to add to the debate of meeting basic needs, a rural development approach and improvement in the quality of life for development. The study only deals with the domestic sector, which is the everyday life of people and their activities within their households. Although it deals with households within the locality, it is limited in that the empirical analysis is based on a small number of households in a particular context. The scope of the study was further limited by time and budgetary constraints. In relation to the time limitation, it should be noted that some of the sources of secondary data (literature review) are old. This, however, resulted in the researcher using only the available material and resources at that particular time of conducting and completing the research.

4.6. CONCLUSION

It should be noted that the information that was collected is only qualitative in nature. The qualitative analysis has been employed in analysing data. It was also a viable idea to use statistics in some instances but this was avoided. The reason why the researcher abandoned this idea is because of the fact that he only opted for the synthesis and interpretation of qualitative data.

CHAPTER FIVE

RURAL ELECTRIFICATION IN SOUTH AFRICA: Is the Quality of Life in Households Improved?

5.1. INTRODUCTION

This chapter analyses data collected during the course of the fieldwork. This is the main theme of the study, as mentioned in chapter one. This chapter seeks to link the theoretical and conceptual framework with the data synthesized from the fieldwork research. Moreover, it seeks to address the research questions that were introduced in chapter one. The links between direct quotations from the responses to research questions and literature review (theoretical and conceptual framework), and empirical evidence from the fieldwork research interviews (case study) are provided in this chapter.

The theoretical and conceptual framework provides that rural electrification has social, economic and environmental impacts. In order to prove the reality, people have to find out the results from the data that was extracted by the researcher from various households in the Mount Ayliff District. Regarding the three-dimensional objectives of rural electrification (social, economic and environmental) it is important to accentuate that the analysed data will resemble this categorization. As mentioned in chapter two above, there is an inter-relation between the three-dimensional objectives of rural electrification.

From the onset, it would be difficult to distinguish between the social, economic and environmental impacts of rural electrification. However, what is looked at here is the nature of the impact that rural electrification has on the life of the rural poor with justified conclusions related to the three-dimensional objectives of rural electrifications arrived at, at the end. Intrinsically, the main focus is to find out the effectiveness of rural electrification in improving the quality of life/standard of living of the rural poor. As mentioned above, a number of different household types were interviewed in order to elicit information about the impact that electricity has on the households' lives. If, however, there are any matters arising in the course of this chapter and were not mentioned in this introduction, they would be dealt with accordingly in a coherent manner.

5.2. THE IMPACT OF ELECTRICITY ON HOUSEHOLD DOMESTIC ACTIVITIES

5.2.1. Electrified households with schooling children *versus* unelectrified households with also schooling children

In Chapter Two, it has been argued that electric lighting makes it easier for children to study in the evenings. However, Kallmann (1996) similarly argues that an electric light makes it easier for children to study is listed by families throughout the developing world as one of the major benefits of electrification. This, for example, was the verdict of the families responding to a survey on the social impact of rural electrification in Malaysia. Indeed, this concern partially addresses the question that is raised in Chapter One amongst the research questions that were formulated by the researcher. This question says, "Does electrification create new or better life opportunities for the rural poor people?"

In Mount Ayliff, regarding this category of households, a strategy of grouping children according to these two types of households (mentioned above) was devised (two groups of children). Scholars of Lugelweni Junior Secondary School were interviewed. These were mixed gender scholars. Firstly, the writer will start by synthesizing the information extracted from the group of scholars who have electricity in their households and then deal with the latter, which is the group of scholars who have no electricity in their households.

Scholars with access to electricity

Children belonging to this group mentioned that accessing electricity has brought important changes to their lives. One of the scholars with the support of others said, "*... I like electricity; the things that it provides for us are unbelievable because our lives have been modernized more than before. Now we are more like the people in urban areas. We live in a comfortable environment and enjoy prosperity like the people in urban areas, which was not available before the provision of electricity in our locality.*"

Most importantly, the scholars are saying that electricity has created a conducive environment for their studies. The well-improved lighting conditions have enhanced their chances of studying during the night and after mid-night if they have tests, assignments, homework and

examinations, with less restrictions/limitations. They say that when electricity was not yet available their parents were often complaining about the waste of candles and paraffin that were used in this activity. They usually referred to this regard as waste of money.

In rural areas children, especially girls, have a major burden of performing household domestic activities such as cooking, heating water, ironing, washing and cleaning among other things. This is the manifestation of a patriarchal society where gender/sexual division of labour is seen in traditional settings like the rural periphery. In rural areas like Mount Ayliff household domestic activities resemble the old fashioned division of labour along the gender/sex lines. Females traditionally perform activities such as cooking, heating water, ironing, cleaning and washing. But what must be also noted is the fact that where young girls are not available, young boys are engaged on these activities in assisting their mothers.

In relation to these domestic chores, female scholars pointed out an improvement as their drudgery on performing household domestic activities has been eased. The availability of electricity has resulted to the households' acquirement of modern electric appliances to help them in performing household domestic activities such as cooking, heating water and space, cleaning, ironing and washing. The children mentioned a list of electric appliances that are now seen in rural areas, used in performing these domestic activities. A lengthy list of the following appliances was mentioned: microwave, iron, fridge, toaster, kettle, washing machine, stove, heater, Hoover, fan and so on. Although these appliances are seen in rural areas their acquirement depends on the level of opulence (income) of the household. The high-income households are noticed to have an abundance of these modern electric appliances. Most importantly, the scholars are saying that some of the low-income households tend to own two/three of the electric appliances such as an iron, kettle and refrigerator.

In Chapter Two, it has been argued that it was evident in the US that rural electrification has had a significant impact in rural areas (difference between the rural areas of the Third World and developed countries has been acknowledged earlier). The availability of electric energy has meant labour saving electrical appliances could be used within the home, alleviating burdens of the homemaker and permitting her to engage in other activities with the time thus saved (Saunders et al, 1978).

The scholars in Mount Ayliff say that the modern electric appliances speed up things in performing household domestic activities. Now they spend less time in performing domestic activities. The time that is saved is noted to be devoted in schoolwork (studies). The important concern of children in this regard is the fact that more time is now spent in their studies, and improved lighting conditions at night have resulted in improved performance (not necessarily academic performance but general execution of activities) at school. One of the scholars said, *"... now our performance at school has improved tremendously. We come early to school and we do not abscond so that we engage ourselves on performing household domestic activities, as it was the case in the past if there is no household maid at home"*.

Moreover, in Chapter Two, it has been argued that a whole lot of new applications have emerged by which television has been able to perform a vital function in the dissemination of information and in the spread of education (SAIEEW, 1991). In the lengthy list provided by Annecke (1998) (See Chapter Two), it has been mentioned that electricity might play a role in improved educational services and quality of life.

In Mount Ayliff it is found that the number of people owning electric devices such as television set (TV), VCR and radio/ hi-fi system has increased tremendously. In relation to this, it is noticed that there is also an increasing tendency of acquiring the satellite (DSTV), mostly by the high-income people. These devices help in the dissemination of information such as news about the rest of the world. One of the scholars said, *"...things like TV and DSTV are very important because we get recent news about the world. We can even see places like Europe and America on TV and this is what we study at school in subjects such as Geography. There are also educational programmes on TV that help us to revise what we have learnt at school"*. These electric devices as a source of information are not confined to this activity only (dissemination of information). They are also important in the provision entertainment. Children mentioned that they watch sports, films, and local and international soap on TV and this really provides them with a great deal of entertainment.

It is, however, an aspiration to the scholars because they applauded the availability of electricity as modernizing their way of living. They say that at the Mount Ayliff rural village there is a Technical School that has been established after the provision of electricity. The most important concern here is the introduction of computers to the rural people. One of the scholars, in grade seven (7) said *"...the availability of electricity in our community brings*

prosperity to us. Now that we see computers in rural areas, I just want to be like my brother Lwazi. They have computers at their Technical School. It is highly motivational to me to see his clean typed schoolwork everyday. One day beyond any reasonably doubt I would definitely be like him. I want to follow his footsteps and see myself using computers at his Technical School”.

Scholars with no access to electricity

When children with no access to electricity at their homes were asked, as to why they do not have electricity, they said that electricity was supplied to their locality before they come to settle in the area. They also put the blame on the government, saying that now it is more than five years after other people had access to electricity. It is also like a continuous song by the government saying that Eskom is coming to install electricity in their households in the near future. But time continues without any action seen in this regard.

The children with no access to electricity say that alternative sources of energy such as firewood, paraffin, cow dung, gas, coal, crop residue and weeds, candles, batteries, petrol and diesel, and waste products (e.g. plastics and papers) are used in their households. When asked which is the more viable source of energy, they recommended electricity as the valuable and most viable source of energy due to the following reasons:

- *“...we often go to school very late, especially in winter, because we spend more time in heating water and space, ironing, cooking and cleaning. However, our fellow colleagues who have access to electricity at their homes are acknowledging the convenience that electricity has brought to them because it speeds up things in performing all the domestic activities. They manage their time superbly because they are always early and present at school”.*
- *“...we are using candles and paraffin for lighting during the night when we are studying. Our parents are always complaining, thus disturbing us when we are busy with our schoolwork, saying that we are wasting candles and paraffin, as they regard them expensive”.*
- *“...we use firewood, cow dung, crop residue and waste products such as plastics and papers for heating irons. This often results in causing our school clothes to be dirty. These sources of energy are unhygienic because our clothes smell bad, our white shirts*

become dirty more often and can even strain our lives because they cause ill health e.g. chest pains, headaches and painful eyes. Candles also contribute to this unhygienic environment because our school material e.g. books are messed up by the candle oil, hence, they also burn our books”.

- *“...we do not watch TVs most of the time as do people who have got access to electricity. Although a few of us have got batteries at our homes, our parents are always complaining, saying that to charge a battery week after week is a massive expense more than what people who have access to electricity experience”.*
- *“...we achieve low marks at school as compared to our fellow colleagues who have access to electricity at their homes, as we are always forming the last group of performers when it comes to performance in class. This is because of the fact that we have little time to spend on our studies because too much time is spent on performing household domestic activities”.*

When asked whether they need access to electricity, the children said yes, indeed. They actually see from the people who have access to electricity the enhanced life standards and prosperity that electricity brings to them. When asked to elaborate as to why they need access to electricity, they said that they want to live a better life like those who have access to electricity and people in urban areas.

5.2.2. Electrified households with illiterate household members *versus* unelectrified households with illiterate household members

According to Thom (1995b) (See Chapter Two) energy use patterns by rural people are determined by a complex and interlinked set of factors, which are principally the products of rural poverty, neglect and underdevelopment. One of these factors related to this category of households is the rural people's attitudes and traditions, and the proximity of energy sources.

The extensiveness of poverty in rural South Africa has resulted in many problems. One of these problems is that many people are poor and illiterate because of stressful conditions of poverty. These poor and illiterate people tend to be ignorant of the concerns of the civilised world because they have accepted the way they are and their way of life. For example, the illiterate people in rural areas are antagonistic to modernity; thus, a lot of things that come up with development tend to be highly rejected by their attitudes and perceptions. They associate

modernity and development with the literate and educated people. This is what causes their animosity, because in every sphere of life they are against these people and their ideas. Electricity is always associated with modernity and can revitalize and modernize lives of the deprived and poor people. However, it is important to find out whether people's attitudes and attributes contribute to their perception of development, hence, of rural electrification aimed at improving the quality of life and standard of living of the rural poor.

Households with illiterate household members having access to electricity

The illiterate people confess that their reason in accessing electricity is because of the influence they get through the literate, better-off and educated people. They say that literate people are more like their role models and they copy and adopt their lifestyle and way of doing things. Indeed, with regard to electricity they voice that the educated people are living a better life because they manage to acquire a lot of modern electric appliances since they have money and know how to use and operate them effectively. These electric appliances are acknowledged to have modernized their lives in performing household domestic activities.

Nonetheless, they say that with regard to the improved standard of living of the literate and better-off people they found themselves in the context whereby they have no choice other than following the footsteps and adopting their strategies. They recommend that they see the viability of electricity in improving and modernizing the people's quality of life. In Chapter Two, it has been argued that a major change is taking place today with rural consumers adopting and imitating consumption patterns followed in urban areas, and increasing ownership of domestic appliances in rural homes is taking place (SAIEEW, 1991).

When asked why did they need access to electricity they mentioned the following concern among other things:

They wanted to have improved lighting conditions. They regard this as the main importance of electricity. One of the respondents said, "...now we have improved lighting at night. We are living in an environment that is more like those people who are living in urban areas. Most importantly, electricity has brought a remarkable change to our lives because now it is bright around the community at night. We can even manoeuvre to strange places during the night, which was impossible during the dark days when we had no electricity".

The illiterate people seem to belong to the poorest households because they regard themselves as poor. Thus, they cannot afford purchasing expensive electric appliances. When asked which activities they do not perform with electricity but have a desire and interest to do, they mentioned cooking and heating. They accentuated their desire of using electricity in these activities but their problem is lack of financial resources to be able to acquire expensive electrical appliances.

Most importantly, one of the respondents emphasized by saying, *"...I am very keen to use electricity for cooking and heating but the problem is that I do not have money to buy electric appliances such as stove, iron, heater and so on. Maybe, in the long run, as this is my goal, if I obtain enough money I will consider purchasing electric appliances in order to live a better life and have improved standard of living"*.

Households with illiterate household members having no access to electricity

There is major problem that arises in this category of households. The illiterate people who do not have access to electricity are completely against this source of energy. They spell out their personal attributes that result in hostile attitudes towards the hate and dislike of electricity. Their lifestyle and illiteracy contribute to their hostility towards electricity. The reasons why they do not want electricity are as follows:

- They say that they completely dislike electricity for the mere fact that it is dangerous to the people's lives. The main concern in this regard is that electric wires can shock and kill people, as it is always shouted in the media that *"do not mess up with or touch electric wires because they kill"*.
- They mentioned that their domestic animals cannot sleep at night under the bright light and also can be shocked by electric wires.
- The major problem emanates from their superstitions with regard to their ancestors. One of the interviewees said, *"...this electricity is a problem to our lives. Our ancestors cannot visit us now because of the bright light at night because they operate their activities at night under dark environment. Then, how can they visit us under these bright lighting conditions that we see in our community during the night?"*

- One old man expressed his personal views with regard to the use of electricity saying, *“...people who are using electricity are risking their lives because electricity is dangerous. Who to be blamed if electricity kills them? They are digging their own grave. If their houses get burnt who is going to extinguish that fire, because I believe the fire that is caused by electricity is more dangerous than ordinary fire.”*

The illiterate people who do not have access to electricity prefer to use other alternative sources of energy, those that are traditional in nature. When asked which sources of energy do they use, they mentioned firewood, cow dung, crop residue and weeds, candles and paraffin. One of the interviewees expressed her fear in using paraffin; *“...it is dangerous if children access it because drinking it is a major constraint to the people’s lives because it is poisonous. I remember an incident when my neighbour’s child woke up in hospital after accidentally drinking paraffin.”*

The illiterate people are not shy to say that their lack of education is a major factor contributing to their dislike of electricity (as mentioned earlier, poverty conditions in relation to literacy should be taken into consideration). They are saying that educated people are living a prosperous and comfortable life due to their access to electricity. It is noticed that literate people have a great deal of electric appliances to help themselves in performing their domestic activities in a fancy and modernized way. They say that there is a critical question they always ask themselves, *“ Why educated people are not scared to use electricity, why is it really not scary to them?”* Indeed, they believe that this has something to do with their education and literacy standard, hence, their beliefs and superstitions.

It is, thus, discovered that illiteracy is a major contributor in fostering people’s attitudes against using electricity. Those who have access to electricity is because of the fact that they are living in neighbourhoods where there is a dominance of literate people. They emphasized that in every sphere of life they copy and adopt lifestyles of these better-off people because they are their role models since they are living a comfortable life. Those who do not have access to electricity believe in their old and traditional way of living. They are confined by their beliefs and superstitions. What I have found is that the main cause of illiterate people’s antagonism towards electricity is their hostile influence to each other because they are living in the neighbourhood where illiterate people are dominant.

5.2.3. Electrified single female-headed households *versus* electrified single male-headed households and electrified households with unemployed household heads

In this category of households with a single parent my intension was to find out whether electricity has an effect on the performance of household domestic activities, more especially, the effect it has on gender/sexual division of labour with regard to household domestic activities. It also seeks to address a number of research questions that appear in Chapter One. For example, the questions related to the impact of electricity to the domestic activities (chores) of the rural poor, and the impact of electricity to the livelihoods of the rural poor.

Electrified single female-headed households

People belonging to this category applauded the availability of electricity; due to the important changes that it has brought to their lives. The majority of female heads of households are unemployed. They have anticipated the advantage of accessing electricity by opening up small businesses as a means of survival.

One of the respondents who is a young female living with three kids said, “...*access to electricity has been a great advantage to me because it has created opportunities to gain my livelihood. I have established a small salon as means of survival where I generate income to maintain the household. I am unemployed and not satisfied by the profit that I make through this salon because I lack capital and equipment. If I can be able to obtain the equipment and capital that I usually see in well-developed salons in town I believe that I would be able to make much profit for unlimited satisfaction of household’s survival. Although this income does not satisfy me, I am able to maintain myself, paying fees for my school going child, as well as maintenance for the other two kids. Indeed, it is much better than someone who is unemployed and has nothing for survival. It is good to appreciate what electricity has brought to me with regard to chasing away poverty and deprivation.*”

What is notable is that there are really a lot of women, female heads of households, who have opened up small businesses after the supply of electricity in the community. Among other things the following are types of small businesses that women tend to rely on as coping strategies: salons, spaza shops, shebeens and taverns. They believe this as enabling them to gain their livelihoods and also closing the gap of not having a male partner to support and

satisfy the household needs. Nonetheless, the most vital emphasis is on this activity's ability of chasing and alleviating poverty and deprivation.

Electrified single male-headed households

The male-headed households also acknowledge the benefits of the availability of electricity. This category of households like the female-headed households emphasized the potential benefits of accessing electricity such as the diminishing gap of not having another partner as an assistant household head.

One of the respondents said, *"...this electricity has created advantages for me, which have largely changed my life. I do not have a wife but now I can perform household domestic activities such as cooking, heating water, washing, cleaning and ironing, all by myself. I have been able to acquire electric appliances such as stove, washing machine, Hoover, microwave, kettle, fridge, heater and so on. These appliances have modernized my life and are user-friendly because I am able to perform each an every activity within the household. The pain and suffering of not having a wife and household maid have been diminished. Now I do things by myself and my children are assisting me if they are not schooling. The burden of performing household domestic activities has been eased."*

It is also remarkable in this category that single parent male heads of households tend to rely on coping strategies in order to equate the burden of maintaining the survival of their households. Like female heads of households the single male heads of households rely on small businesses such as salons and barber shops, spaza shops, shebeens and taverns and most importantly productive works such as welding and carpentry.

One of the respondents who is a taxi owner and also owning a small shop recommended electricity by saying, *"...accessing electricity has made me to intensify my survival strategies for enhancing my chances to generate more income for the household. I do not have a wife and am unemployed but now I have extended my small shop due to the anticipation of life chances that this electricity has brought to me. I have opened up a tavern where I sell ice-cold beer, brandy and other beverages. There are entertainment items in this tavern such as pool tables, music system and TV/computer games (play station), which provide an abundance of entertainment for teenagers, young men and women. I have also installed a Vodacom public*

phone. Indeed, this is breath-taking and unbelievable because out of these activities I obtain extended income for the entire household survival and prosperity."

Electrified households with unemployed household heads

It is important to note that a majority of households in rural areas of Mount Ayliff district fall within the category of households with an unemployed household head. The nature of household types is ambiguous because in one household a multi-dimensional identity can be noticed. For example, if we can go back it was found that the heads of illiterate, female-headed/ male-headed households tend to be unemployed as well. This clearly shows that there is extensive unemployment and vulnerability in these rural areas, as stated in Chapter Three, regarding poverty and underdevelopment in Mount Ayliff.

Nonetheless, the people have to pay money in order to acquire electricity because it is not for free. It is like other goods and services that are sold in the market. The idea of selecting this category of households is to find out how do unemployed people with a lack of financial resources afford electricity. Another important factor is to assess their anticipation with response to the availability of electricity that tends to be acknowledged by the majority of the poor people. It is always said that it brings life changes to the people. Does electricity really have an effect of change to the lives of the unemployed poor people (this was also stated in Chapter One, amongst the research questions)?

As mentioned earlier, it is now becoming obvious that unemployed people anticipate the advantages of accessing electricity by establishing small businesses as means of survival. The majority of unemployed poor people who were interviewed had similar responses in this regard. They tend to rely on coping strategies in order to gain their livelihoods and for the maintenance of their survival. These income generating activities such as spaza shops, salons, shebeens and taverns provide them with the opportunity to ameliorate poverty and deprivation.

For example, one of the unemployed heads of households (specifically selected for this category) said, *"...I used to stay in Johannesburg generating income from piece jobs (casual jobs), as I was unable to get a full time job. Through these difficulties an idea just came to my mind when I heard that electricity has been supplied back home (rural areas). I returned back*

home and established this small business. I have now opened up a barbershop and also repair cellular phones. I have also installed a Vodacom public phone in my business place. These activities need electricity as a viable source of energy in order to be sustainable."

Moreover, this man acknowledged electricity by saying that it is the most viable and powerful source of energy as compared to the others. He said it is reliable in the sense that it can be used in a multi-dimensional way such as cooking, heating, lighting as well as survival strategies. However, it has potential to substitute all other alternative sources of energy. He also uses electricity within the household in performing domestic activities such as cooking, heating, lighting, ironing and entertainment. Regarding entertainment he mentioned that he has just bought a big screen TV set and hi-fi (music) system. Thus, it has been argued in Chapter Two, that households can make significant financial savings on energy expenditure when they obtain mains electricity, as noted by a villager in the town of Vacas in Bolivia.

Indeed, the man (in Mount Ayliff) acknowledged electricity as a cheaper source of energy because he only pays R150 per month as compared to approximately R 300 that he used to spend purchasing alternative sources of energy such as charging a car battery, candles, paraffin, diesel, petrol, gas and firewood when electricity was not yet available. This R150 is for purchasing the monthly energy needs such as electricity and other supplements like candles, paraffin and gas. Most importantly, the man does not have any problem with the amount he pays for electricity. Although he is unemployed he manages to meet the entire household needs through the stable income that is generated from the business. He pays school fees for the children, acquires and maintains property/material goods and services that are needed by the household, inputs for the business, and supports his grandmother although she also receives pension grant from the government. For her secondary needs he is always available to make interventions.

5.2.4. Electrified households running a business *versus* unelectrified households running a business

In Chapter Two, it has been cited that Rogerson (1998) says that at the international scale, it is argued that whilst rural electrification encourages the "modernization" of existing rural SMMEs, it exerts only a modest stimulus for the growth of new enterprises. Moreover, Rogerson also argues that there is convincing evidence of increased economic activity and

higher living standards... the arrival of electricity supply in certain areas seems to be a crucial factor in precipitating decisions by local entrepreneurs to invest in a variety of productive enterprises. This section also seeks to address the research question that appears in Chapter One, which says, “Has electrification altered in any way the survival strategies of the rural poor?”

In this case the idea is to test the reliability of various sources of energy. By nature, the two entities of household types represent the businesses that use electricity only, as a source of energy and those that use alternative sources of energy. The bakery business that uses electricity and a shop where electricity is not yet supplied were selected as case studies. Most importantly, my goal is to assess the character of electricity and its role as a source of energy and an input in business performance.

Electrified business

The interviewee, Mrs. XX³, acknowledged electricity as a great advantage, because of providing stability to her business. In the past her bakery business was located in a remote area in Mount Ayliff. During this time traditional sources of energy such as firewood and paraffin were used. It is said that they tended to consume too much money, time and labour power in performing the production process. Regarding electricity she said that it is satisfactory on its own and a major substitute to the traditional sources of energy. Due to the anticipation of electricity she removed and relocated the business to the area where electricity has been supplied. There are important concerns she voiced with regard to the availability of electricity such as follows:

- Besides the relocation of the business it is important to note that the entire set up of the business has changed all together. Now it has been extended into a big business. The machinery/modern electric technology has been introduced in the production process. Although the machinery is now used it is noted that by nature it is labour intensive and modernizing the production activity. This has resulted in increased final produce equated by increased size of the profit accumulated via the exchange of final goods. It is acknowledged that the machinery results in speedy delivery in the production process.

³ The names of the respondents were not disclosed to assure anonymity. In this study they are given names such as Mrs. XX / Mr. YY.

- The availability of electricity and modern technologies as inputs in production has resulted in an extension of time in the daily opening times of the business. The business opens and functions properly even during the night. Now that there is electricity the improved lighting conditions are enabling 24 hours functioning of business.
- As mentioned above, the machinery that is used in the business is labour intensive. This concern together with increased time in the daily functioning of business, and the extended size of the business have resulted in the creation of more employment opportunities for the poor local people who were unemployed before. This concern deserves to be acknowledged because the majority of the people who are employed here are poor local women. This clearly shows the revitalization of their livelihoods. Indeed, the nature of the business accommodates unskilled and semi-skilled labour, as in a great deal the machinery operates on its own with the people loading the inputs and monitoring the situation. Too much manual labour is utilized in the sorting of the final produce.

By looking at the entire situation it is breath-taking to find that electricity is empowering the marginalized local entrepreneurs and women because the owner of the bakery is a female. In this regard, it is also noticeable that increased employment opportunities are also created for women. This is the actual empowerment of the poor women because electricity is enabling them to gain their livelihoods.

When Mrs. XX was asked about the reliability and affordability of electricity she said that she does not know the amount that she spends in purchasing electricity. But she emphasized that she does not have any problem with the amount because now she makes a huge amount in return that automatically cancels everything. She even considered increasing the size of the business once again, realizing the advantages and convenience that electricity brings to her. She said, *"...in the near future I want to extend the size of the business once more. I want to increase the variety of the products. I consider baking and producing cakes and biscuits. I also want to purchase a weighing machine for ingredients and the final produce."*

Once more, in relation to empowerment of the local people it is noteworthy to find that in a great deal electricity is enhancing the stability of the local businesses. For example, Mrs. XX acknowledged that because now the size of the final produce has been standardized and the business is well developed there are many people from local shops that come to purchase bread from her bakery. Local shopkeepers, spaza owners, and even businessmen from places

beyond the boundaries of Mount Ayliff such as Tabankulu come and purchase their stock here. The increase in number of customers (businessmen) is also equated by the increase in number of individuals who come and purchase loose fresh and warm take-a-ways from this bakery.

Although electricity provides a lot of advantages due to its reliability and affordability, with regard to reliability, Mrs. XX was not happy with the technical supply of electricity. She said that at times she finds it disgusting to rely on electricity alone because they experience problems such as rudeness of the supplier (Eskom). Most of the time Eskom does not notice/inform them when they are switching off the power station for maintenance. It is also mentioned that when the power accidentally goes down the technicians take time to arrive. She referred to this as a major blow to her because it tends to result in a waste of inputs and ingredients in production. Since it takes a long time to regain access to electricity, when there is no electricity their work just stops and the inputs/ingredients expire. Indeed, this shows us the poor accountability and service delivery of the prominent electricity supplier (Eskom).

Unelectrified business

As mentioned earlier, the interviewee in this regard was a shopkeeper in the area where electricity is not yet supplied. Mr. YY of Brooksnek location was a respondent in this case study.

When the old man was asked why he does not have access to electricity, he lamented exactly the same way as other people who do not have electricity in their neighbourhoods did. He said, *"...I am desperately in need of electricity. Eskom is delaying because other places around our area (Mount Ayliff) had access to electricity 5-10 years ago. I believe our government does not care because they do not come to us. Every time we enquiry about this issue they are always saying that they are coming in the near future. This government is not accountable, however, it is unfair and negligent because we voted for these people."*

Now that the man does not have access to electricity he is using alternative sources of energy in his business such as petrol and diesel (generator) and gas. He is complaining about the affordability and reliability of these alternative sources. He regards them as being expensive and costly. For example, he has to buy gas, petrol and diesel in bulk (litres and litres) more

often. The main problem is that their prices are unstable because they tend to rise more frequently. For example, he is saying that nowadays the inflation of petrol is like a norm in the sense that it is always increasing, thus affecting their lives as consumers. Due to these constraints he is considering to shut down his business for a while and wait for the provision of electricity to the locality instead.

Moreover, with regard to reliability the old man told me a very sad story (he could not even try to hold back his tears). The problem was directed to danger of the gas, which killed the one and only son that he was blessed with by God. What is aggravating his affliction is the fact that it did not kill his son only, as during the time when this accident happened he was sleeping together with his girlfriend that he was about to marry. It killed both of them, indeed. He concluded by saying that he has to give it a watchful eye every time because if children can play with fire near the containers and generator they can burn themselves and property. Indeed, this contributes to the fact why he considers shutting down the business and waiting for electricity instead.

Mr. YY recommended electricity by comparing himself to his old friend who has a shop similar to his (regarding size). In fact, in the area where his friend's business is located there is electricity; hence, he is desperately in need of it. He wants to live a better life, as he is saying, *"...look at my friend, he only purchases electricity for R100 a month, which is very cheap as compared to my case. I have to buy a gas for R90 and also petrol and diesel costing approximately R300 every month. Hey! Just look at the difference, life is very unfair at times, as I have to struggle in order to survive, thus I am considering to shut down my business."*

5.2.5. Electrified households using electricity only versus unelectrified households using alternative sources and electrified households using complementing sources to electricity

In Chapter Two, the idea of the multiple-fuel use patterns that is seen prevalent in rural areas was emphasized. According to Annecke (1993), Cecelski (1992) and Cecelski and Glatt (1992), as also argued by Davis and Ward (1998), it is clear that the majority of households utilise a number of different fuels. In many cases different fuels are selected for different end-uses, and it is common for a household to use two or more fuels for one application (especially cooking).

This section seeks to address a number of questions that were raised in Chapter One. For example, questions that look at the available alternative sources of energy to electricity, the viability of the entire alternative sources including electricity and the uniqueness of the most appreciated source of energy.

As mentioned above, it is possible for certain households to rely on electricity only, as a source of energy. Other people can believe in using alternative sources. There are also households that can equate the two entities by using electricity and complement/supplement it with the alternative sources of energy. As economists usually argue with regard to demand and supply of goods and services in the free market, individuals (consumers) tend to have different tastes and preferences. In the case of energy consumption, it depends on tastes and preferences of a particular household. A household can choose the source of energy that is believed to be able to suit its consumption needs and patterns. Nonetheless, with regard to the types of households selected in this category (here) I want to find out the exact reliability and affordability of different sources of energy, hence, electricity is the main concern in this entire study.

Electrified households using electricity only

The people who are using electricity only acknowledged it as the most economically viable source of energy because it can be used in all domestic activities and other activities on its own. They are saying that it has the potential of substituting all other sources of energy that tend to result in excessive costs, such as candles, diesel and petrol in lighting, paraffin/gas in lighting, cooking and heating; and also freezing. One of the respondents said, *"...if you have electricity you can use it on its own, in a wide range of domestic activities thus minimizing costs in energy consumption. It is a cheapest source of energy indeed."*

When these households were asked about the activities they perform with electricity and their sustainability they mentioned all the possible domestic activities such as lighting, cooking, heating water and space, cleaning, freezing, cooling, washing and ironing. They said that they have acquired all the possible modern electric appliances to help in the performance of these activities. They acknowledged the quickest performance that the modern electric appliances provide. People refer to this concern as the improvement of the quality of life. Electricity is said to perform all the domestic activities without any constraints. This is the confirmation of

their sustainability. The people who are using electricity only are the high-income people because they listed a lengthy list of electric appliances that are found in their households such as stove, kettle, toaster, microwave, iron, fridge, Hoover, fan, TV set, hi-fi system, heater, VCR, satellite dish, washing machine, computer and grass trimmer (lawn mower).

The reliability and affordability of electricity is, however, acknowledged by these better-off people. They say that if someone can substitute or complement electricity he/she will be making a very big mistake because massive costs could be incurred with the use of alternative sources. The most important concern they raise is that other than substituting/complementing electricity it is better to reserve the alternative sources as back-ups just in case electricity becomes unavailable. Regarding this concern they mentioned the following problems in relying on electricity alone with nothing in reserve:

- Firstly, it is said that the problem with electricity is that most of the time when Eskom technicians are switching off the power station for maintenance purposes they tend to do it without informing people. Two days can come and go with people not having access to electricity.
- Secondly, they are complaining about the strength of the power station because when there is a sudden change of weather such as wind/heavy rains the power goes down, hence, losing access to electricity. This is notified as happening every time when there is a sudden change of weather.

Unelectrified households using alternative sources of energy

People who do not have access to electricity are criticizing the government. It is not that its their choice not to have electricity because they are saying that they would love to have access to electricity but the government is very slow in doing its job of providing services to the citizens. Like other people who do not have access to electricity they also mentioned that now it is 5-10 years since other localities got access to electricity.

The sources of energy that tend to be found in these households are firewood, cow dung, plants and crop residue, paraffin, gas and candles. These alternative sources are perceived as performing all the domestic activities but the problem is with their reliability and affordability. For example:

- They procure excessive costs; hence, they consume a lot of money because these alternative sources have to be bought in bundles more often.
- Candles are regarded as being dangerous because they have burnt a lot of people's houses and property around the community. They are also referred to as wasteful because they do not last long.
- Paraffin is also dangerous, as one of the respondents mentioned that her sister's child (3 year-old) died after accidentally drinking paraffin thinking it was water.
- Firewood and cow dung are acknowledged as favourites at first because they are free of charge. People do not pay money for them because they are obtained from the veld, mountain and forest. But in a great deal, problems arise with regard to their reliability because they are referred to as being dirty and unhygienic, since resulting in pollution (smoke) and ill health such as headaches, chest pains, painful eyes and coughing. Moreover, firewood and cow dung are disadvantageous in the sense that people have to walk very long distances in order to acquire them. They approximately travel 5-10 km every third day. This, however, contributes to ill health such as painful body parts.

Electrified households using complements

As mentioned above, Thom (1995b) argues that energy use patterns by rural people are determined by a complex and interlinked set of factors, which are principally the products of rural poverty, neglect and underdevelopment. In these factors the economy of the area, which in turn affects the financial situation of people and proximity of energy sources were mentioned.

In Mount Ayliff the electrified households that are also using alternative sources of energy (complements) are found to be belonging in low-middle income earning groups. The reason why they are complementing electricity is economic. They say that using electricity only is expensive because you have to purchase electricity and an abundance of electric appliances that tend to induce cost of living. They regard themselves as more belonging to the poor pool of the population although they can afford much of what they want due to prioritisation, hence, using electricity and complementing sources. Another thing is that places where they purchase electricity are few and far away from communities. One can find that most of the time electricity is sold out. They think the best solution in this regard is to avail the prepaid

cards in their local shops closer to communities. They also say that Eskom must supply them in bulks at any time without limitations, in order to avoid inconvenience.

Moreover, the other concern related to their income levels is that different activities consume varying levels of energy. In grouping their activities into separate entities (such as those performed with electricity and those performed with complementing sources), they firstly mentioned that activities such as lighting, ironing, TV, radio and freezing consume a small amount of electricity per volume. In order to perform them in sustainable way electricity should be used. Secondly, they mentioned two activities, which are cooking and heating, referred to as consuming too much energy per volume within a short space of time. Indeed, this is what is believed as inducing excessive costs in electricity consumption together with the acquirement of durables (modern electric appliances). Nonetheless, they said that it is better for the poor households to economize and let the rich people to utilize electricity to the maximum, as they tend to experience no problems with the purchase of an abundance of electric appliances.

People who are complementing electricity do not regard electricity as costly, but the real problem lies in the fact that people have to purchase an abundance of modern electric appliances. All in all, they are saying that if they have enough financial resources they would better desert the complementing sources and use electricity instead. This is due to its reliability because it can perform all the household domestic activities on its own, substituting all other alternatives.

Lastly, it should be noted that this section also addressed one of the research questions raised in Chapter One. The question says, "What effect does electricity have on the cost of living of the rural poor?" As it is demonstrated here, it is found that electricity results in enhanced cost of living for the rural poor because they have to purchase expensive electric appliances in order to utilize electricity effectively to the maximum level.

5.3. SUMMARY OF COMMUNITY PERCEPTIONS OF ELECTRICITY

There are common general questions that were asked to all households that were interviewed to elicit information about the entire community's perception of electricity. In fact, by looking at the constituencies of households (household members) it is believed by the people that

electricity benefits are accrued to everyone making up the household, hence, people can be identified in terms of sex and age such as children, men, women and elderly people. These are matters arising from the views of the community at large. It is because of the fact that they are beneficiaries of electricity in meeting basic needs of the citizens.

Moreover, there are important things that must be looked at such as indirect benefits from electricity by the people who do not have access to electricity and also by the community at large, irrespective of having individual access to electricity or not. These are distinguished as externalities, which may have both positive and negative effects on the community. It is going to be searched from different views of different people whether they regard electricity as a positive or negative externality.

5.3.1. Economic viability of electricity

As mentioned above, it was found that all the people viewed electricity as a cheaper source of energy as compared to the alternative sources. It is noticed that the important factor in this regard is the new prepaid meter system that has been introduced by Eskom for electricity consumption. It should be noted that the information provided here was also derived from the interviews.

The poor people acknowledge the prepaid meter system as bringing convenience to their lives unlike the old ready board system that used to be seen in urban areas. They regard the old ready board as unfair and rude in the sense that it tends to steal and dispossess people off their money. The concern here is that with regard to the ready board even if you have not consumed electricity at the end of the month the bill (statement) will be issued and states that you have to pay the required amount. People are strongly criticizing electricity authorities in this regard. They are saying that they came up with the strategy of “*pay the amount or else go to the law/jail*”. The poor people had no choice other than paying the demands although they have not used electricity.

It is, however, acknowledged that the new prepaid meter system has exterminated the rudeness and unfair treatment that people used to receive from the electricity authorities. In the case of the prepaid meter system they are saying that you have to pay the amount of money for the amount of electricity that is required to meet the household consumption needs

at that particular time. The amount of electricity you have bought is written down on the meter reader, thus showing you the daily consumption of electricity. In this case, no one can rob or steal the amount you have because everything appears on the meter reader.

Most importantly, people regard the prepaid meter system as being cheap because you can use the amount of money you are having at that particular time with no demands and restrictions experienced. This concern is clearly seen in the case of the poorest households, which purchase electricity for R10 and the amount used for lighting and playing radio/TV sustain their monthly consumption patterns for electricity. The prepaid meter system is viable in the sense that all the people (poor and rich) are accommodated by the system. It is found that there is no one complaining about electricity because everyone views it as being reliable and affordable.

As mentioned above, low-income people only complain about the secondary demands of electricity with regard to purchasing modern electric appliances that are needed in their domestic activities in order to utilize electricity to the maximum. Other than electricity itself, the modern electric appliances are noticed in inducing costs in electricity consumption. Indeed, this makes some people to perceive electricity as costly and expensive.

5.3.2. Quality of electricity

In a nutshell, the rural poor are overwhelmed by the availability of electricity in their localities. They are saying that this electricity performs all the domestic activities like any other ordinary electricity found in other places without problems being experienced. Nonetheless, there are few things that Eskom should pay attention to in order to ensure that quality of its services are rightfully met and maintained. The people submitted to the researcher some important concerns, which should be considered in order to improve the quality of services. These include:

- The light that is acquired from rural electricity is dimmer as compared to what is seen in towns and townships. They even say that it is dimmer than the light coming from generators.
- There is a question on the low voltage of electricity, as they are saying that when one connects many appliances and electric devices the main switch goes down.

- If there is wind/heavy rains or any sudden change in weather people loose access to electricity during these times because the power station just goes down.

5.4. GENERAL COMMUNITY-WIDE BENEFITS FROM ELECTRICITY

As mentioned earlier, the benefits from electricity accrue to different household members. Electricity is aimed at benefiting all the people irrespective of their age, sex/gender. All household members where electricity is available are subject to benefit. Thus, their quality of life and way of living is improved/enhanced. Most importantly, electricity benefits tend to accrue to the entire community irrespective of whether you have access to it or not. Nonetheless, as mentioned earlier, it should be noticed that the benefits to the community could be viewed as positive or negative externalities depending on the individual's perception of electricity.

5.4.1. Advantages/opportunities electricity brings to children

- ◆ For school going children, they are now (in the presence of electricity) able to study during the night under well-improved lighting conditions, referred to as being conducive for studying.
- ◆ Electricity has eased the children's drudgery in performing households domestic activities such as cooking, heating, cleaning, washing, ironing and so on, through accessing modern electric appliances. This saves time that is referred to as being devoted to their studies in return (Mainly to the better-off/ high-income households).
- ◆ The extensive ownership of TVs, radios/hi-fi systems, satellites (DSTVs), VCRs and TV games enhance their knowledge through the dissemination of information (news) about the real world. These appliances/devices also provide children with an abundance of entertainment.

5.4.2. Advantages/opportunities electricity brings to women

- ◆ Electricity helps in ameliorating the drudgery of women in performing household domestic activities such as cooking, heating, cleaning, washing and so on, through accessing modern electric appliances. These activities are traditionally perceived as their duties within the

household. This is noticed as saving time for them, which is devoted to other important household activities, such as survival strategies, in return (Mainly to the better-off /high-income households).

- ◆ After the provision of electricity there are many unemployed women, mainly from female-headed households, who have established small businesses as means of survival. This, however, has empowered women because they have been able to improve their livelihoods.

5.4.3. Advantages/opportunities electricity brings to men

- ◆ Now that there is electricity men can assist in the performance of domestic activities due to the user friendliness of modern electric appliances. This is easing the burden on women in performing household domestic activities (Mainly to the better off/high-income households).

- ◆ Like in the case of women, there has been the accumulation of small businesses that are established by poor unemployed men, as means of survival.

- ◆ There has been an abundance of ice-cold beer for men in shebeens, taverns and bottle stores (although this is subject to criticisms by the community at large, as will be seen later in this chapter, people who are consuming beer and business owners acknowledge it).

5.4.4. Advantages/opportunities electricity brings to old people

- ◆ Now that there is a brighter light in the community during the night the old (elderly) people are able to manoeuvre around the neighbourhood. It was impossible in the dark environment when electricity was not yet available.

- ◆ During cold winter seasons the old people are able to get unlimited and improved space heating (Mainly to the better off/high-income households).

- ◆ They are now able to watch TV, which can enhance their knowledge about the world, through the dissemination of information/news. This can also provide them with a great deal of entertainment that was not there in the past.

5.4.5. General advantages experienced by the community [*Positive externalities*]

- ◆ There is now a brighter and well-improved lighting around the community at night, which allows people to manoeuvre freely and easily even to strange places.

- ◆ Crime and deviant behaviour such as housebreaking and property stealing that usually take place during the night have deteriorated because the deviants are scared of being caught under the bright light.
- ◆ Since there is extensive unemployment in rural areas many people have anticipated the advantage of accessing electricity by opening up small businesses as a means of survival and employment creation, thus, alleviating poverty and deprivation. Many people now are able to gain their livelihoods, more especially women. The availability of extensive local businesses also makes more of what people want (goods and services) to be available closer to them. This is noticed to diminish the burden of spending too much money, going to towns to purchase bundles of groceries day after day.
- ◆ Electricity has created a lot of entertainment opportunities for the rural poor, because now there are many people who own a variety of appliances/devices such as TVs, VCRs, radios/hi-fi systems, satellite dishes (DSTV), TV/computer games e.g. play stations for children and so on (Mainly accrued to the better-off/high-income households but as indirect benefits to others by accessing them through their neighbours).
- ◆ Forests, mountains and community plantations are no longer potential victims for acquiring firewood as a source of energy. Although there are still some people who are using this source of energy, they are mainly using it during big ceremonies. The poorest people are also using this source of energy but it is acknowledged by the community that people who are collecting firewood from forests and mountains have decreased in numbers after the provision of electricity. Now that there is electricity, people want to keep up the standards, as they are using better alternative sources such as paraffin in most of their activities, most importantly for cooking. Indeed, in Chapter Two, it has been argued that in some circumstances the provision of electricity to low-income households will reduce their consumption of wood (Smith, 1998).

5.4.6. General disadvantages experienced by the community [*Negative externalities*]

Electricity is generally perceived as bringing prosperity to the rural poor. Although this is true, there are other negative unforeseen realities with regard to the availability of electricity. There are many shebeens, taverns and bottle stores that have developed after the provision of electricity. Although the prime reason of establishing these small businesses is that they are

means of survival/coping strategies, there are important problems experienced through this. They are as follows:

- ♦ Many people coming from the poor vulnerable households spend too much of their income in liquor consumption, thus saving nothing for household consumption. This perpetuates poverty indeed.
- ♦ Another problem is that young men and women, boys and girls who are schooling children (the prime assets of the nation) end up getting trapped in these places as drunkards. They come to these places for entertainment such as music, computer games (play station) and pool (snooker), as this is their main reason. But they end up consuming and abusing liquor, which is very bad and dangerous to their lives and those of others
- ♦ Many people in rural areas are illiterate. They do not know how to use electricity. There are major risks manifested to the people's lives when power lines fall down. It is accentuated by some people that there is an accident that happened in the community when three people who were going to church on a particular Sunday morning were killed. These people were trying to jump over the power lines that fell down due to the burning of veld fires.

5.5. ELECTRICITY AS A BASIC NEED

In Chapter Two, a question was asked whether energy is a basic? This issue was dealt with accordingly in a critical manner. It was demonstrated therefore that people do not regard energy as a basic need, but the things it provides such as its ability in satisfying an immense of other basic needs, result to it being perceived as a basic need in itself.

Nonetheless, coming to electricity as a potential source of energy, the rural poor of Mount Ayliff consider electricity as a basic need as argued above. They regard electricity as forming part of a "package" with other basic needs such as water, sanitation, roads and employment because of its versatility. The rural poor perceive electricity, water, sanitation and employment all as equally important. It is difficult for them to choose which one must come first in service provision. People are all desperately in need of these services, as they believe that in order to improve their quality of life the mentioned services are all needed as complements to each other.

In fact, the following concerns were mentioned to substantiate their view of the “*package of basic needs*”:

- ♦ Roads are very poor and have developed gullies or dongas. People are experiencing serious problems in this regard because their cars do not last long. They are unable to go to town during rainy days because the transport cannot manoeuvre.
- ♦ Water and sanitation are also important in the sense that people consume dirty water from the rivers. Some people use these rivers as toilets. This is unhygienic and dangerous to their lives because it can result in the emergence and spread of cholera that is seen prevalent in rural Transkei. In fact, one of the respondents even said, “...*imagine the case of Port St Johns (in Transkei) and Kwazulu-Natal where people lacked clean water and sanitation and thus died due to the emergence and spread of cholera.*”
- ♦ Electricity is also important. As mentioned above, it is generally perceived as a versatile source of energy. Moreover, since there is extensive unemployment in rural areas many people have anticipated the advantage of accessing electricity by opening up small businesses as means of survival and employment creation. It is this satisfaction of other basic needs such as employment that enforces people to perceive it as a basic need in itself.

5.6. CONCLUSION

In concluding this chapter, the researcher wants to refer back to the hypotheses. The hypothesis, which states that electricity contributes to the development of the rural poor by improving their standard of living, seems to be true and needs to be retained. The provision of electricity in rural areas has improved the quality of life and standard of living. Moreover, it has created new and better opportunities for the rural poor.

It has been discovered that electricity has got both advantages and disadvantages. The advantages of accessing electricity outweigh the disadvantages. The majority of the rural poor agree with the fact that electricity improves their quality of life and standard of living (for example, the social, economic and environmental concerns mentioned above).

Contrary, electricity provides some problems such as the perceived negative effects on the lives of the illiterate people. These people dislike electricity due to their attitudes and superstitions, and also lack of knowledge/information. Another problem is the emergence of

extensive liquor selling places after the provision of electricity. As mentioned above, this tends to affect the lives of children and vulnerable poor households. In a nutshell, these concerns hinder development; thus, need to be dealt with accordingly in order to ensure sustainability of development because they can counteract development in a negative way. These issues will be dealt with in detail in the next chapter, regarding recommendations and conclusion.

CHAPTER SIX

RECOMMENDATIONS AND CONCLUSION

6.1. RECOMMENDATIONS

It was demonstrated and concluded from the research findings in the previous chapter (Chapter Five) that electricity really improves the quality of life and standard of living of the rural poor. Nonetheless, my main concern stems from the advantages and disadvantages of electricity having an adversarial relationship that needs immediate attention. Most importantly, it has been demonstrated that electricity creates new and better opportunities for the rural poor such as improved standard of living through the use of modern electric appliances. Moreover, development of survival strategies helps them gain their livelihoods, thus alleviating poverty and deprivation. There are also problems, such as accumulation of liquor selling places, which tend to affect lives of children and vulnerable poor families. This conflict needs to be eliminated in order to pave a way for the sustainability of development.

There are recommendations that can be devised in order to substantiate some interventions that need to be looked at in future, for ensuring that development goals and objectives are met, hence, rural electrification aimed at meeting the basic needs of the rural poor by improving their quality of life and standard of living. Nonetheless, some interventions as means of recommendation will tend to focus specifically on the use of electricity. Some will focus on electricity as a basic need and service in development.

6.1.1. Integrated Rural Development Approach

The idea behind this concern emanates from the fact that when the rural poor were asked to mention their most important basic need it was difficult for them to decide. Instead, they mentioned electricity, water, sanitation, roads and employment as their “*package of basic needs*” that need to be met at an early date, if the government is seriously concerned about improving their quality of life and standard of living. People view these services as equally important for them because they are entirely lacking in rural areas. However, they are also viewed as inter-related or complementary to one another.

For example, the provision of electricity has something to do with roads because the material and equipment, which is used in electricity provision is delivered by vehicles that tend to manoeuvre around the community. Water depends on electricity and roads, because the equipment has to be transported around the community, and also that to generate water from the boreholes and underground water table boring machines need powerful sources of energy such as electricity in order to operate the machinery, sanitation depends on water and roads and so on. Most importantly, what is important is the fact that in the provision of these services employment opportunities are created for the poor and these are perceived as the public works programmes.

Indeed, due to this inter-dependency, the government must supply these basic services simultaneously in an integrated way. In this way, the basic needs package of the poor can start to be met, subject to the improvement in their quality of life from different facets. The idea of an integrated rural development approach mainly stems from the concern of Integrated Development Planning (IDP), which is a new approach and tool for the municipalities and local government to carry out their mandate in planning and service delivery. The IDP integrates different functions of separate line departments in service delivery, thus ensuring accomplishment of sustainability of development from different facets of development.

6.1.2. Public Works Programmes

Public works programmes can be a problem solver in poverty alleviation in rural areas. In this concern, the poor tend to be actively involved in their own development such as service delivery. For example, in the provision of basic services such as water, sanitation, electricity, roads, schools, health services and so on. Most importantly, the public works are aimed at redressing unemployment and infrastructure creation using labour intensive methods of construction variably in the countryside.

The labour intensive public works are designed to create the infrastructure for development at lowest cost. The ability of public works programmes to absorb unemployment is significant, though each programme has to be judged in relation to the nature of unemployment in that particular country and to the resources committed to it.

6.1.3. Speedy Delivery of Services

The poor are complaining about the lack of pace in the delivery of services. With regard to electricity it is found that other people around the community had access to electricity 5-10 years ago. Some fellow citizens have to watch from sidelines whilst their colleagues are enjoying prosperity.

In fact, it is said that post-1994, when the new democratic government came into power, the government started the provision of services to local communities with a high pace. But now everything has been retarded because of the negligence of the government. It was felt that the government should keep promises and make it a point that the speedy delivery of services is achieved and well maintained in order to avoid inequalities and unfair treatment of the citizens and local communities. Indeed, something needs to be done in this regard for the equal benefit of everyone in local communities because people in power would need to be re-elected in future by the citizens.

6.1.4. Accountability of Local Authorities

Many interviewed people who do not have access to electricity complained about the accountability of the local authorities. It is found that the majority of the rural poor are ill informed about development issues. People complain that when the local authorities/government are needed to address the masses they are nowhere to be found or else they keep on saying that they are coming in the near future. In fact, the citizens refer to this as the rudeness of the local authorities bearing in mind that they have voted for these people into power in order to oversee and be responsible for their needs.

It was felt that authorities only consult and care for the people when they need their vote to take them into power. This is the ineffectiveness of the local authorities, which can result in hindering the development progress. Although it is seemingly a sensitive issue and people are afraid to discuss this matter, some interviewees accused the local authorities for the misappropriation of government funds (almost all the respondents mentioned this concern but it was not recorded and discussed in data analysis). It is said that many people who are government officials are squandering the government funds for their own personal needs. This, however, is what is referred to as the white-collar crime, which is prevailing in rural

areas of South Africa nowadays. It is noted that government officials are driving expensive cars while citizens who are potential beneficiaries are suffering as victims of poverty and neglect.

Indeed, the central government authorities must come to the people and investigate this concern because it hinders development. If one looks at rural infrastructure in South Africa, for example in Mount Ayliff, there is no progress in development, but the government is issuing out an abundance of resources and budgets to the local government for the benefit of the poor citizens year after year.

6.1.5. Quality Service Providers

There are crucial things that need immediate attention, which people complain about in the use of electricity. Firstly, they complain about the dimmer light coming from this electricity, which is poorer than what is found in urban areas and also the light coming from generators. Secondly, they complain about the strength of the power station, which is said that every time there is a sudden change of weather such as heavy rains and wind, the power goes down. People tend to loose access to electricity during these times. Thirdly, the other complaint related to the strength is that when one connects too many appliances/devices to this electricity the main switch also goes down.

The main idea in this regard stems from the fact that people always say "*Quality lasts longer*". Indeed, this electricity needs to be upgraded. The government must ensure that quality services are supplied and well maintained for the benefit of the local citizens in order to ensure that sustainability is met. The poor quality services that are supplied to the citizens will thus have a negative effect in a long run because regarding maintenance too much financial resource have to be spent. This can be a waste of resources bearing in mind that there is a package of services that is highly demanded for the development of the rural poor people (See the section above, concerning electricity as a basic need).

The government must ensure that high quality service providers are employed in order to avoid constraints and inconvenience such as unsustainable services. With a specific reference to electricity Eskom is the sole generator and distributor of electricity in rural areas of South Africa. One option is that the government must open up a room for competition in service

provision in order to ensure that high quality is achieved and well maintained. This could exterminate complacency related to the monopoly enjoyed by Eskom.

Lastly, people complained about the lack of accountability of the technicians and limited availability of the pre-paid cards.

- It is said that during emergencies technicians take time to arrive. People mentioned that technicians are not always available. They are located in Port Shepstone, which is far away from the local communities. This is ridiculous because Port Shepstone is outside the boundaries of the Eastern Cape province. It is a town located within the territory of the Kwazulu-Natal. How can the government let this continue if it cares about the local citizens? The government should intervene and remedy the situation in order to ensure that technicians are always available at any time without constraints. One recommendation is that they should locate some offices for the servicemen around the local area. Moreover, the government must ensure that local people are employed for this activity.
- It is also said that most of the time pre-paid electricity cards are sold out. This results in inconvenience because people lose access to electricity during these times. In this regard, the quality service providers must ensure the availability of these pre-paid cards at local shops closer to communities. They should be supplied in large numbers/bulk in order to avoid inconvenience.

6.1.6. Education

Many people in rural areas are illiterate because they are constrained by prevailing poverty. This tends to have a negative effect on development, because some ideas and interventions that come about bringing development to the rural poor are rejected by the attitudes of the illiterate people. It was found that illiterate people are antagonistic and dislike electricity, although it seems to be true that it provides improvement in people's quality of life and standard of living.

The government must promote education in rural areas for the benefit of the rural poor in development. Education should be included in the package of basic services in order to ensure that the local citizens understand and are well informed about development issues. This, however, will inevitably pave a way for meeting development goals and objectives.

Moreover, education is vital in providing knowledge for awareness of electricity. It was stated in the analysis of findings of the research that three people were killed by electricity when they were trying to jump over electric wires that fell down due to the burning of veld fires. As it was demonstrated, one of the respondents from the illiterate households category said that the reason why he does not want electricity is because of the caution that says "*Never touch electric wires because they kill*". In fact, the people who were killed had a wrong impression because of their lack of knowledge. They thought that the problem is with touching electric wires without knowing that you do not even have to make any kind of contact with electric wires. They thought that stepping over electric wires was safe. This is the lack of knowledge that needs to be ameliorated through the promotion of education to the poor and illiterate rural people.

6.1.7. Domestic Division of Labour

The availability of electricity results in the acquirement of electric appliances to help in the performance of household domestic activities. Men recommend these appliances as being user-friendly. Now they can perform domestic activities by themselves. This is easing the drudgery on women, as it is traditionally perceived as their duty within the household. In this way, electricity ameliorates the unfair treatment of women with regard to the burden of performing domestic activities.

If electricity use has the potential to diminish the drudgery and gender/sexual division of labour in performing household domestic activities, it needs to be highly promoted. This gender/sexual division of labour needs to be restructured for the benefit of vulnerable women. The government together with the local authorities must persuade people to use electricity, because of development opportunities it provides to them. For example, if men are assisting women in performing household domestic activities, as it was a totally different scenario in the past, women will thus have time to participate in other life generating activities. It was found that after the provision of electricity many women have anticipated the advantage of accessing electricity by opening up small businesses as a means of survival in order to generate income for the benefit of their households. This is the empowerment of women because they are now able to gain their livelihoods the same way men normally do.

6.1.8. Employment Creation

There is extensive unemployment in rural areas. The majority of households that were interviewed tend to have an unemployed household head. It was found that the availability of electricity provides the unemployed poor people with a chance to establish small businesses as a means of coping. All the people, men and women, who are involved in this activity, have created self-employment for their own benefit in order to alleviate poverty and deprivation, which prevail in rural areas.

Now families can gain their livelihoods because income is generated for their survival. The government should intervene and ensure that this self-innovation (self-reliance) by the rural poor is successfully monitored because it would ease the burden on the government in providing scarce employment opportunities to the poor citizens. The government must at least ensure that basic entrepreneurship skills are provided for the benefit of the rural poor. In essence, this activity would have a potential of ameliorating aggregate unemployment for the benefit of the entire nation.

6.1.9. The Environment

It was found that people acknowledge electricity as resulting in a clean and healthy environment within their households. It was also noted that after the provision of electricity forests, mountains and community plantations are no longer potential victims for obtaining firewood. Although it is said that people coming from the poorest households still rely on firewood as their main source of energy, the number of people going to forests and mountains is noticed to be deteriorating. Now that there is electricity, people want to keep up the standards by using other better alternative sources of energy such as paraffin. Although paraffin is also a polluter of the environment (fossil fuel) it is much better than the damage that is caused through the extraction and use of firewood. It is also cleaner than firewood.

As mentioned above, the government should intervene by creating employment opportunities for the people in order for them to be able to afford the consumption of goods and services. This would result in favourable persuasion of the people to use electricity that is perceived as a viable and reliable source of energy. Indeed, if people get employed, they can manage to afford the expenses that are experienced in the use of electricity such as the acquirement of

costly electric appliances. This would result in the eased burden to the environment, hence, forests, mountains and plantations for extracting firewood.

Nonetheless, the majority of the poor heavily rely on forests and plantations for meeting other important basic needs such as shelter. The wood is the main input in the production of poor people's houses and furniture. It would thus be worthwhile for the government to strongly intervene in this regard for the protection of the natural ecosystems. The important concern here is the benefit of the poor citizens who have many wants and needs that need to be met in order to enhance their quality of life and standard of living. If the government could ensure that people are aware of their important benefits from the natural resources, sustainable development would be possible.

6.1.10. Monitored liquor selling

The availability of electricity has resulted in the accumulation and growth of liquor selling places such as shebeens, taverns and bottle stores. This has a negative impact on the community because young men and women, and also school-going children (boys and girls) end up being trapped in these places as drunkards. These are the assets of the nation; hence, they could play a major role in contribution to the economy of the nation, as perceived future leaders. Although these small businesses are the means of survival for the unemployed poor, serious interventions in hindering the abuse of liquor by the juveniles should be abandoned and closely monitored.

The government must ensure that the official rule in the country, which says that no alcohol/liquor should be sold to pupils less than 18 years of age, should be enforced for the benefit of the nation. The government must ensure that the corporate body of law such as police or any other means of security should be employed to enforce and monitor the situation on daily basis. The people employed must manoeuvre around communities and consult the liquor selling places at all times.

6.2. CONCLUSION

The theme of the study was to find out the impact and effectiveness of rural electrification on improving the quality of life/standard of living within households in rural South Africa. For

this reason, the Mount Ayliff district in former Transkei was selected as being one of the poorest districts in South Africa. The qualitative information gathered for this study suggests that rural electrification has proven to be effective and successful in improving the standard of living of the rural poor.

The gaining of livelihoods to the rural people through finding and establishing new ways for their survival are entirely attributed to the improving quality of life in rural areas. For example:

- generating income from self established small businesses (self employment),
- cleaner and healthy environment,
- restructuring of a patriarchal society (gender/sexual division of labour),
- new conducive environment for schooling children,
- electricity's perception as a cheaper and reliable source of energy as compared to other alternatives, and so on...

Nonetheless, this improvement in the quality of life in rural areas should be given time because it cannot be achieved over night.

The emphasis that the writer wants to provide in this conclusion is that the recommendations that have been provided need to be closely looked at for future research pertinent to rural electrification. It is my belief that a lot of interesting policy issues can stem from these recommendations for the benefit of the government with a decisive goal to alleviate and eradicate poverty in rural areas.

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BASIS FOR ARGUMENT

PRE-RESEARCH SPECULATIONS

Different types of households to be interviewed: Reasons?

A. Electrified h/holds with schooling children, as compared to h/holds without electricity having schooling children

Reason: Those having access to electricity would have an advantage of extending their time of studies during the night, under conducive lighting environment. They may also have an advantage of acquiring and accessing new modern technologies such as radios, televisions, computers, satellites etc. that can provide them with relevant information about the world. In this regard, they would be able to enhance their knowledge that is also obtained through their studies. Electricity can also diminish the drudgery of children in performing household domestic activities such as washing, cleaning, cooking, heating etc. through accessing modern electric appliances that can minimise the time spent on performing these activities. This can, however, contribute in maximization (increase) of time for their studies, thus paving a way for better/improved performance at school. Those schooling children that have no access to electricity would be disadvantaged as compared to those that have access to electricity. In essence, they cannot enjoy the advantages and prosperity that electricity would have brought.

B. Electrified h/holds running a business, as compared to h/holds without electricity running a business

Reason: Those having access to electricity have an advantage of extending the daily time of opening their business. Conducive lighting environment that electricity would provide can make them to open the business even at night. This would help them in generating more profit for the household survival. This also can create more employment opportunities for the unemployed poor people such that they gain their livelihoods. They would also have an opportunity of accessing and acquiring modern technologies/machinery for improved performance and better management of business. Those having no access to electricity would continue to struggle, and finding it the hard way because they would rely on using alternative sources of energy that can contribute to increased costs of running a business.

C. Electrified h/holds with illiterate h/hold members, as compared to h/holds without electricity having illiterate h/hold members

Reason: The crucial goal in this category of households is to investigate the perceptions of people with regard to development and use of electricity. In essence, it is well known that electricity is associated with modernity. The illiterate people are always having a hostile negative attitude against this regard (but it takes one to be a rural dweller in order to experience and understand this concern). They always reject everything that come up with development/modernity because they believe in the old traditional way of doing things. The illiterate people who have access to electricity would be because of the influence they get

from the literate/educated people, hence living in the neighbourhood where literate people are dominant. For them accessing electricity would be because they copy and adopt the lifestyles and activities performed by the literate people. Those who have no access to electricity would be because of their negative personal attitudes and attributes towards modernity and development. It can be found that these people are living in the neighbourhood where illiterate people are dominant, thus having a hostile influence to each other.

D. Electrified single female-headed h/holds, as compared to electrified single male-headed h/holds

Reason: In fact, these are single parent households. Access to electricity can bring changes to these types of households. E.g. new better life opportunities. These h/holds can open up new small businesses as means of h/hold domestic survival strategies. This, however, would bridge the gap of the absence of another h/hold head (partner), and this may be either a female or a male. Through these survival strategies these vulnerable h/holds would be able to generate income for the survival of the entire household, thus ameliorating the gap of having the solitary h/hold head. It should be noteworthy in the case of female-headed h/holds that women, as the most people that tend to be vulnerable to poverty, would have a chance of gaining their livelihoods more than anything else. Moreover, accessing electricity would also be an advantage for women in reducing the drudgery in performing h/hold domestic activities through accessing modern electric appliances. This would save time in performing these activities, thus creating more time to be devoted in other important life activities such as survival strategies. With regard to men they would be able to assist women in performing h/hold domestic activities because the modern electric appliances are user-friendly.

E. Electrified h/holds with unemployed household heads

Reason: The unemployed h/hold heads can realise and anticipate the advantage of accessing electricity by opening up small businesses as means of survival strategies. Their children would have no chance of vagabonding in streets and becoming subjects to crime because they would assist in business by supplying a great deal of labour. This, however, can help the h/hold to maximise profit for the h/hold survival. The income generated out of business can be spent on purchasing property and consumption goods and services with the surplus opening up opportunities for children to education/schooling.

F. Electrified h/holds using electricity only, as compared to h/holds without electricity using alternative sources of energy

Reason: In these types of h/holds the most important concern is to look at the advantages and disadvantages of using different types of sources of energy. Both types of h/holds would either have advantages/disadvantages. This regard has economic connotations. The result would be that, which source of energy is regarded as economic viable and reliable e.g. electricity or alternative sources of energy?

G. Electrified h/holds using electricity only, as compared to h/holds having access to electricity and also using other sources of energy (complementing sources of energy)

Reason: This category of h/holds has economic connotations as well. The idea behind this concern is to closely look at the economic viability and reliability of electricity. The question

is on the performance of electricity in h/hold domestic activities. Indeed, does electricity as a source of energy does the job of performing h/hold domestic activities on its own or else there is a need for it to be complemented/supplemented?

APPENDIX 2:

FIELDWORK RESEARCH---INTERVIEW QUESTIONS

A. ELECTRIFIED HOUSEHOLDS WITH SCHOOLING CHILDREN

- ◆ What changes has your access to electricity brought with relation to your studies?
- ◆ Do you have any access to modern electrical appliances?
- ◆ Are some of these appliances as a source of information helpful to you? How?
- ◆ What changes has your access to electricity brought with regard to your performance in domestic activities/duties?
- ◆ Do you have any access to modern electrical appliances to help you in domestic activities, and which activities do you perform with these appliances?
- ◆ What effect does more time spent on your schoolwork than domestic activities have to you?
- ◆ What other advantages/opportunities have electricity created for you?

B. UNELECTRIFIED HOUSEHOLDS HAVING SCHOOLING CHILDREN

- ◆ Why do you not have access to electricity?
- ◆ What is your belief about electricity? How do you view the whole situation of accessing electricity?
- ◆ Do you need access to electricity? Why?
- ◆ What advantages/opportunities do you think access to electricity would have brought to you?
- ◆ Which sources of energy do you use at home?
- ◆ Are these sources of energy reliable for your studies? Why?
- ◆ Comparing the sources of energy you are using and electricity, which is viable? Why?
- ◆ Do you benefit from access to electricity by your neighbours?

C. ELECTRIFIED HOUSEHOLDS WITH ILLITERATE HOUSEHOLD MEMBERS

- ◆ Why did you need access to electricity? What was your goal in accessing electricity?
- ◆ Is accessing electricity important for you? Why?
- ◆ What activities do you perform with electricity?
- ◆ Are there any activities you do not perform with electricity but have a desire and interest on them? If yes, what are those activities? Why do you hesitate performing them?
- ◆ What sources of energy do you use in those activities you do not perform with electricity?
- ◆ Why do you prefer using these sources of energy instead of electricity?
- ◆ Are these sources of energy reliable?
- ◆ What is your personal view with regard to the use of electricity?
- ◆ Are there any life changes that electricity has created for you? If any, what changes?
- ◆ Do you consider education as an advantage/disadvantage with regard to the use of electricity? Why?
- ◆ Comparing yourself and those who are literate, who is living a better/comfortable life with regard to the availability of electricity? Why do you think, is it so?
- ◆ How much money do you spend for purchasing electricity on monthly basis?
- ◆ Do you see this amount as reasonably affordable or an expense?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What important advantages and opportunities does electricity bring for children?
- ◆ What important advantages/opportunities does it bring for women?
- ◆ What important advantages/opportunities does it bring for men?

- ◆ What important advantages/opportunities does it bring for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ With regard to the infrastructure and basic services that are supplied by the government to the people, which is the most essential basic service? Why?
- ◆ What are general advantages experienced by the entire community with regard to the availability of electricity?
- ◆ What general problems and disadvantages experienced by the entire community with regard to the availability of electricity?

D. UNELECTRIFIED HOUSEHOLDS WITH ILLITERATE HOUSEHOLD MEMBERS

- ◆ Why do you not have access to electricity?
- ◆ Do you consider needing access to electricity overtime?
- ◆ What is your personal view with regard to the use of electricity?
- ◆ What sources of energy do you use in your household?
- ◆ Are these sources of energy reliable?
- ◆ Are these sources of energy affordable?
- ◆ What advantages/disadvantages do you experience with regard to your current energy sources?
- ◆ Judging from your own personal view, who is living a better life between you and those who have access to electricity? Why?
- ◆ Do you consider education as an important factor, with regard to the use of electricity?
- ◆ What advantages/disadvantages does your education level have with regard to the use of electricity?
- ◆ What impact does access to electricity by your neighbours have on you?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and services that are supplied by the government, which is the most essential basic service? Why?

E. ELECTRIFIED SINGLE MALE-HEADED HOUSEHOLDS

- ◆ What advantages/disadvantages have access to electricity created for your household?
- ◆ What life changes have access to electricity created for you?
- ◆ Is there any specific thing that you believe electricity brings to the male-headed households or single parent households?
- ◆ Judging by your own view and experience what life changes does electricity create for the entire household members?
- ◆ How much money do you spend purchasing electricity on monthly basis?
- ◆ Do you see this amount as reasonably affordable or an expense?
- ◆ Do you manage to meet other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What advantages/opportunities does electricity bring for children?
- ◆ What advantages/opportunities does electricity bring for women?
- ◆ What advantages/opportunities does it bring for men?
- ◆ Is there any advantage/opportunity electricity brings for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government, which is the most essential basic service? Why?
- ◆ What are general advantages that are experienced by the entire community with regard to the availability of electricity?
- ◆ What are general disadvantages experienced by the entire community with regard to the availability of electricity?

F. ELECTRIFIED SINGLE FEMALE-HEADED HOUSEHOLDS

- ◆ What advantages/disadvantages have access to electricity created for your household?
- ◆ How do you manage the utilisation and consumption of electricity?
- ◆ What life changes have your access to electricity created for you?
- ◆ Is there any specific thing that you believe electricity brings to women?
- ◆ What specific important impact does electricity have on single parent households? E.g. female-headed household.
- ◆ Judging by your own personal view and experience what life changes does access to electricity create for the household members?
- ◆ How much money do you spend for purchasing electricity on monthly basis?
- ◆ Do you see this amount as reasonably affordable or an expense? Why?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of this electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What important advantages/opportunities does electricity bring for children?
- ◆ What important advantages does electricity bring for women?
- ◆ What important advantages does electricity bring for men?
- ◆ Is there any advantage electricity brings for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied by the government, which one do you consider as the most essential basic need? Why?
- ◆ What are general advantages experienced by the entire community with regard to the availability of electricity?

- ◆ What are general disadvantages experienced by the entire community with regard to the availability of electricity?

G. ELECTRIFIED HOUSEHOLDS RUNNING A BUSINESS

- ◆ What advantages/disadvantages does access to electricity bring to your business?
- ◆ What effect does access to electricity have on the time spent on business e.g. daily functioning of business?
- ◆ Do you make profit/loss with regard to the availability of electricity?
- ◆ What effect does access to electricity have on employment opportunities for the poor people? Does it create more or less employment opportunities?
- ◆ What effect does electricity have on the activities performed in the production environment?
- ◆ Do you consider substituting/complementing electricity or is it satisfactory on its own? Why?
- ◆ What other advantages/disadvantages, if any, does electricity bring to your business?
- ◆ Is electricity reliable?
- ◆ Is electricity affordable?
- ◆ Are there any other activities you think electricity can perform but are not engaged on your business? Why do you hesitate performing them?
- ◆ How much money do you spend purchasing electricity on monthly basis?
- ◆ Do you see the amount as reasonably affordable or an expense? Why?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What important advantages does electricity bring for children?
- ◆ What important advantages does electricity bring for women?

- ◆ What important advantages does electricity bring for men?
- ◆ What advantages does electricity bring for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government, which is the most essential basic need? Why?
- ◆ What are general advantages experienced by the entire community with regard to the availability of electricity?
- ◆ What are general disadvantages experienced by the entire community with regard to the availability of electricity?

H. UNELECTRIFIED HOUSEHOLDS RUNNING A BUSINESS

- ◆ Why do you not have access to electricity?
- ◆ Is there any reason that makes you consider not needing access to electricity?
- ◆ What sources of energy do you use in your household?
- ◆ Are these sources of energy affordable?
- ◆ Are these sources of energy reliable?
- ◆ Comparing yourself and other businessmen who have access to electricity who is living a better life?
- ◆ Do you consider yourself needing access to electricity in future/overtime?
- ◆ What activities do you believe electricity can improve in your business?
- ◆ What activities do you think electricity can constrain in your business?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of infrastructure and services that are supplied to the people by the government, which is the most essential basic need? Why?

I. ELECTRIFIED HOUSEHOLDS USING ELECTRICITY ONLY

- ◆ Why do you use electricity only as a source of energy?
- ◆ In your opinion, is there any need to complement electricity with other sources of energy? Do you consider complementing electricity?

- ◆ Is electricity reliable?
- ◆ Is electricity affordable?
- ◆ What activities do you perform with electricity? Are these activities sustainable?
- ◆ What life changes, if any, have electricity created for you?
- ◆ Do you consider substituting or complementing electricity with other sources of energy?
- ◆ Are there any major problems you are experiencing with regard to the use of electricity alone? What is the nature of these activities, if any, is available?
- ◆ How much money do you spend purchasing electricity monthly?
- ◆ Do you see this amount as reasonably affordable or an expense?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What important advantages does electricity bring for the children?
- ◆ What important advantages does electricity bring for women?
- ◆ What important advantages does electricity bring for men?
- ◆ What important opportunities does electricity bring for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government, which is the most essential basic need? Why?
- ◆ What are general advantages experienced by the entire community with regard to the availability of electricity?
- ◆ What are general disadvantages experienced by the entire community with regard to the availability of electricity?

J. ELECTRIFIED HOUSEHOLDS USING OTHER SOURCES OF ENERGY (COMPLEMENTING SOURCES OF ENERGY)

- ◆ Why do you complement electricity with other sources of energy? Is it that electricity is not affordable or reliable? Why?
- ◆ Which activities do you perform with electricity? Why?
- ◆ Which activities do you perform with complementing sources of energy? Why?
- ◆ Do you consider complementing electricity as a good/viable idea?
- ◆ Is there any important specific problem in using electricity alone?
- ◆ Is there any important specific problem in deserting electricity to use other alternative sources of energy only?
- ◆ If deciding to use one source of energy which one do you prefer and which one would you give up (electricity versus alternative sources of energy)? Why?
- ◆ How much money do you spend purchasing electricity on monthly basis?
- ◆ Do you consider this amount as reasonably affordable or an expense? Why?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there anything that needs to be improved from the electricity you are using?
- ◆ What important advantages does electricity bring for children?
- ◆ What important advantages does electricity bring for women?
- ◆ What important advantages does electricity bring for men?
- ◆ What important advantages does electricity bring for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government, which is the most essential basic need? Why?

- ◆ What are the general advantages experienced by the entire community with regard to the availability of electricity?
- ◆ What are the general disadvantages experienced by the entire community with regard to the availability of electricity?

K. UNELECTRIFIED HOUSEHOLDS USING ALTERNATIVE SOURCES OF ENERGY

- ◆ What sources of energy do you use?
- ◆ Are these sources of energy able to perform all of your domestic activities?
- ◆ Are these sources of energy reliable? Why?
- ◆ Are these sources of energy affordable? Why?
- ◆ Do you consider these sources of energy as an advantage/ disadvantage, why?
- ◆ How do you view electricity? Do you see it as being important or a problem?
- ◆ Are these sources of energy suitable for your domestic activities?
- ◆ Do you consider substituting/complementing them with electricity overtime? Why?
- ◆ Which activities do you believe electricity can perform better than the alternative sources of energy?
- ◆ What do you believe as the major problem with regard to the use of electricity?
- ◆ What do you consider as the most important advantage/disadvantage with the alternative sources of energy you are using?
- ◆ Do you consider electricity as a basic need?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government which is the most essential basic need?

L. ELECTRIFIED HOUSEHOLDS WITH UNEMPLOYED HOUSEHOLD HEAD

- ◆ How do you afford purchasing electricity?
- ◆ What life changes have access to electricity created for you?
- ◆ What survival strategies were you able to open due to the availability of electricity?

- ◆ Are these survival strategies affordable to run?
- ◆ Is the income generated out of your survival strategies able to create life changes for you?
- ◆ What other household domestic activities do you perform with electricity?
- ◆ Is electricity reliable to use on your domestic activities as a source of energy?
- ◆ Were you engaged on your current activities (survival strategies) when electricity was not yet available? If yes, what sources of energy did you use? Were these sources of energy reliable and affordable as compared to electricity?
- ◆ How much money do you spend purchasing electricity on monthly basis?
- ◆ Do you see this amount as reasonably affordable or an expense?
- ◆ Do you manage to meet and satisfy other household needs?
- ◆ Is the prepaid meter system reliable?
- ◆ Is the prepaid meter system affordable?
- ◆ Is the quality of electricity you are using up to scratch? Does it satisfy you?
- ◆ Are there any general problems you are experiencing with this electricity and its use?
- ◆ Is there any thing that needs to be improved from the electricity you are using?
- ◆ What important advantages does electricity bring for children?
- ◆ What important advantages does electricity bring for women?
- ◆ What important advantages does electricity bring for men?
- ◆ Is there any advantage that electricity brings for old people?
- ◆ Do you consider electricity as a basic need? Why?
- ◆ In terms of the infrastructure and basic services that are supplied to the people by the government, which is the most essential basic need?
- ◆ What are the general advantages experienced by the entire community with regard to the availability of electricity?
- ◆ What are general disadvantages experienced by the entire community with regard to the availability of electricity?