

**EDRC CASE STUDY TWO:
THE POST-ELECTRIFICATION
OF LOSKOP**

APPENDICES

**Land and Agriculture Policy Centre
28 June, 1996**

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**APPENDIX 1:
REGIONAL PROFILE OF OKHAHLAMBA**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Center
25 March 1996**

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PROFILE OF OKHAHLAMBA MAGISTERIAL DISTRICT

This report aims to provide a comprehensive profile of the Okhahlamba magisterial district, in which the town of Loskop is situated. Loskop was selected as a case study as it met the criteria of having a 60 A electricity supply.

The profile considers seven broad aspects: the regional location; the physical environment; historical overview; the social profile; the economic profile; the organisational profile; the overview of past, present and future development initiatives.

REGIONAL LOCATION

The magisterial district of Okhahlamba is in the western part of the KwaZulu-Natal Midlands, adjacent to the Lesotho boarder. The eastern perimeters of Okhahlamba comprise of a line linking the town of Bergville, through Estcourt, down to Mooi River. The western perimeters are comprised of a strip of State Game Reserves and forests adjacent to the Lesotho boarder.

PHYSICAL ENVIRONMENT

TOPOGRAPHY

The topography is influenced by the near proximity of the Drakensberg Mountain Range and the gradient slopes downwards from plateau in the west, to the foothills in the east.

CLIMATE

On the whole, South Africa is regarded as an arid country, which receives 493.8 mm of rainfall per annum. The KwaZulu/Natal region displays a moderate climate and summer rainfall. In recent years, Okhahlamba has been severely influenced by the drought. On average, KwaZulu/Natal receives approximately 900 mm of rainfall which is the highest rainfall of the nine provinces of South Africa. Within KwaZulu/Natal, the town of Loskop (situated in the magisterial district of Okhahlamba) receives approximately a annual rainfall of 640 mm.

WATER RESOURCES

There are ample water resources in the magisterial district of Okhahlamba, which holds three major dams: Woodstock Dam; Wagendrift Dam; and Spioenkop Dam. The Woodstock Dam is on the upper Tugela River, and has the sole purpose of transferring water to the Vaal River. This water is transferred at a rate of 20 cubic meters per second by the Eskom Pump Storage Hydroelectric scheme to the upper reaches of the Vaal River.

The Spioenkop Dam is located down stream of the Woodstock Dam on the Tugela River. The Spioenkop Dam provides water to Ladysmith. Furthermore, it is used to dilute the effluent from the Sappi paper mill at Mandeni during dry periods. The

Wagendrift Dam on the Bushman's River provides water to the town of Estcourt and Weenen. Furthermore, it provides irrigation to farmers along the Bushman's River.

HISTORICAL OVERVIEW

HISTORY OF SETTLEMENT

The magisterial district of Okhahlamba can be divided into three areas. The one is Bergville which is divided from the other two areas, formerly called Drakensberg 1 and Drakensberg 2, which are divided by a strip of state owned land. Certain communities in Okhahlamba claim this is state owned land, but no formal reallocation of this land to the community has yet occurred.

Historically, four main groupings of people have settled in Okhahlamba: the Amahlubi; the Mquwabalanda; the AmaNqwe; and the AmaMswazi. Although rough territorial parameters can be established, all borders are in dispute as the conflict over land continues in Okhahlamba. The first area is where the Amahlubi live. The second area is where the Mquwabalanda are located close to Craig and Boshhoek. The Mquwabalanda are a grouping situated on old trust farms which became occupied via land invasions.

The third area is located at the lower end of Loskop, closer to the Drakensberg Mountains, where the AmaNqwe live. There is a long history of conflict arising from the AmaNqwe pressurising the Amahlubi for land. Within the AmaNqwe grouping there are two groupings, one which opposed the Chief of the area. The fourth group of people in the area are the AmMswazi. These people are in constant flux as they are without permanent land. They attempted to purchase land in the same area as the Amahlubi. But this attempts came to no avail. At present, they are settled east of Loskop near Rosedale.

In the past 10 years, the political instability in the area has spread from Mooi River to Wembezi and to Loskop. Both the ANC/IFP disjuncture and other local level dynamics underlie the strife in Okhahlamba, particularly with regard to the struggle.

IMPORTANT EVENTS THAT INFORMED THE LIFE EXPERIENCES OF RESIDENTS

Violence¹ is the most significant factor influencing rural life in KwaZulu-Natal. Within KwaZulu/Natal and its sub-regions, violence has become the characteristic feature in the region since the mid-1980s. The level of conflict and violence has increased steadily over time, peaking in 1993 and the first half of 1994. The violence has also spread throughout the province. In 1989 deaths as a result of political conflict had occurred in only 22 of the 65 magisterial districts in KwaZulu/Natal. By the end of 1993, however, at least one person had died in 54 of these districts. After the national elections, violence levels subsided.

¹ Source: DRA report for the KZ Finance and Investment Corporation, vol II on the Small Business/Violence Study Feb 1995.

Spatially, the political violence was initially concentrated in KwaMashu near Durban (in the early 1980s), but emerged in the Pietermaritzburg/Midlands area, increasing from September 1987 to January 1988. From 1988 to 1990 events in the Midlands, as a proportion of the whole region, decreased as more conflict occurred in the townships around Durban. Then in 1990, a significant spatial shift occurred as violence spread away from the Pietermaritzburg-Durban metropolitan region to rural areas along the South and North Coast and in the Midlands.

By 1991, violence had spread throughout the region. The conflict spread from the Pietermaritzburg area up towards Mooi River, Estcourt/Wembezi, and finally reaching Ladysmith/Ezakeni. The areas of Richmond and Ixopo in the Midlands region also experienced high levels of conflict from 1991 to 1993.

In general, violence increased substantially in 1992 in the Ladysmith and Estcourt areas, which include Okhahlamba. Levels in the former areas were higher than in the latter areas.

The number of political events in Okhahlamba increased dramatically from a relatively peaceful area in 1990/91 when only nine and eight political events being recorded respectively, to 111 events in 1992. This dropped to 40 events in 1994. The number of deaths in Okhahlamba was 247 between 1986 to 1994 which is the same figure as in Durban. The highest number of deaths recorded per annum in Okhahlamba occurred in 1993 with 92 deaths and 83 deaths in 1994.

SOCIAL PROFILE

POPULATION

Size

The population of Okhahlamba is 214 695 people, which constitutes 2.5% of the entire province's population of 8 386 525. The KwaZulu/Natal population constitutes the largest of the nine provinces in South Africa at 20.8% of the national population. The Okhahlamba population has an average growth rate of -0.74%, showing a trend towards a declining population.

Age

Of the total population in Okhahlamba, 45% fall within the 15-64 year age group and 50.7% of the people are under the age of 14 years (see the table below).

In Okhahlamba, of the total population of 214 695 people, only 21 607 earn an income. This means that just over 10% of the population are income earners. This is much lower than in KwaZulu/Natal as a whole, which has 25.8% of its population earning an income. Thus, the dependency ratio in Okhahlamba is higher than in KwaZulu/Natal as a whole. In Okhahlamba, the total dependency ratio is 4.8. Thus, each economically active person supports 4.8 people.

This is broken into three dependency ratio categories: for youth (<1-14 years) it is 2.9; for persons not active (15-64 years) it is 1.6%; and for the aged (65+ years) it is 0.2. The dependency ratio for the entire KwaZulu/Natal is 2.3, with a range of 9.7. Thus, a greater amount of people depend on economically active people in Okhahlamba on average, than in KwaZulu/Natal.

Table: Age Structure in Okhahlamba

| | Total | Urban | Non-urban | 0-4 | 5-14 | 15-64 | 65+ |
|---------------|----------|----------|-----------|---------|----------|----------|---------|
| Okhahlamba | 211248 | 19430 | 191818 | 38665 | 68389 | 95634 | 8560 |
| KwaZulu/Natal | 8532470 | 3257489 | 5274981 | 1182889 | 2156500 | 4642896 | 350185 |
| South Africa | 43110341 | 20178538 | 22931803 | 6075775 | 10082189 | 24996474 | 1955903 |

Gender

Posel (1993:77) identifies two trends when considering women and gender in the economy of KwaZulu/Natal. The first trend to consider is the growing feminisation of the labour force, particularly in those sectors in which women are dominant. However, women still remain a smaller part of the labour force than men.

Historically, the majority of women, despite city ward migration, remain concentrated in rural areas where opportunities are limited. Furthermore, women are crowded into the low-wage, less secure jobs of the informal sector. Consequently, women's incomes are lower than those of men, and women headed households are a disproportionately large part of the poverty grouping. The second trend apparent in Region E is the stagnation or decline in men's employment.

However, in the Okhahlamba magisterial district this trend is not followed. In 1991, of the total economically active population of 33 957, 17 929 (52.8%) are female and 16 028 (47.2%) are male. The gender distribution is more equal in Okhahlamba than in KwaZulu/Natal on the whole, where the total economically active population consists of 42.6% females and 57.4% males.

Migration

In 1991, there were 20 914 migrant workers absent from the Okhahlamba area, which was 61.6% of the total economically active population. In KwaZulu/Natal, the labour flows were less significant than the previous years with 14.7% of migrant workers leaving their magisterial district. The negative growth rate in Okhahlamba (-0.74%) was associated with the out-migration from the area

In Okhahlamba, as shown in the table below, the male absenteeism rate is 38%, which is high compared to the average absenteeism rate for KwaZulu/Natal at 14.5%. Thus, in Okhahlamba of the economically active population who are male (47.2% of the entire economically active population) 38% are migrants to other magisterial districts. While in KwaZulu/Natal as a whole, only 14.5% of the male population are migrants to other magisterial districts.

COMMUNITY FACILITIES, INFRASTRUCTURE AND SERVICES

In the magisterial district of Okhahlamba there was a low level of community facilities, infrastructure and services. The table below shows the infrastructure required to meet the needs of the entire population within the magisterial district of Okhahlamba.

Table: Magisterial District Infrastructural Construction Requirements²

| | Crèche | Pre-prim | Prim Sch | Sec Sch | Church | Com Hall | Clinic | Library | Post Office | Pol Sta | Hosp | Old AH |
|------------|--------|----------|----------|---------|--------|----------|--------|---------|-------------|---------|------|--------|
| Okhahlamba | 57 | 48 | 48 | 22 | 143 | 14 | 14 | 14 | 14 | 14 | 2 | 14 |

Education³

In terms of school infrastructure, a large deficit exists which needs to be reduced, particularly the deficits in remote rural areas like Okhahlamba. These deficits exist in terms of not only classrooms, but also the poor condition of many of the existing school buildings. In KwaZulu/Natal, the entire total deficit for African Classrooms is 14 542. The deficit in Okhahlamba is 605 schools. This ranks it the 8th worst of the province's magisterial districts and contributes 4.16% to the province's total deficit. There are only four magisterial districts with no deficit/surplus, or a surplus of classrooms, namely: Mount Currie (40 surplus classrooms); Pietermaritzburg (98 surplus classrooms); Chatsworth (no surplus classrooms); and Dannhauser (13 surplus classrooms).

Health

The Okhahlamba district had 124 hospital beds, which constitutes 0.14% of the 86 993 hospital beds in KwaZulu/Natal. This means that there is one hospital bed for approximately every 1 566 people, where the regional average is approximately 96 people for every bed. Furthermore, only seven doctors (of the 3 030 doctors in KwaZulu/Natal) are resident in Okhahlamba. According to the table showing the magisterial district Infrastructural requirements, Okhahlamba requires another 14 clinics and two hospitals.

Telecommunications

The telephone switchboard for Loskop is located at Winterton which has total of 558 residential, business and junction lines. Of this total, Loskop holds 60 residential, business and junction lines. This is only a small fraction of the total 639 982 residential, business and junction lines for the entire KwaZulu/Natal.

Water and Sanitation

The Tugela Joint Service Board is the agent responsible for providing water and sanitation to those areas of Okhahlamba which do not fall under the authority of town

² Data Research Africa Data Base, compiled from the 1991 Population Census.

³ Source: Unpublished document, prepared for J. May (DRA), by Krige, D And Badcock-Walters, P. Dec 1995 Education Development Strategy.

councils. Loskop thus relies on the Tugela Joint Service Board for water and sanitation.

Community Halls

The entire magisterial district of Okhahlamba requires 14 community halls.

Churches

The magisterial district of Okhahlamba requires 143 churches to serve the population.

Housing

In the Magisterial district of Okhahlamba, there are 14 276 formal housing units and 21 899 informal housing dwelling units. There is a backlog of 28 663 houses for the magisterial district, which is 44.2% of the total housing requirements for the magisterial district, which is high when compared to the entire KwaZulu/Natal's backlog of only 36.77%. Refer to the table below.

Table : Total housing stock, house and population for the Okhahlamba Magisterial District

| | Housing stock | Houses | | Population | |
|---------------------|---------------|----------|---------|----------------------------|----------|
| | Formal | Informal | Backlog | Total housing requirements | Unhoused |
| Okhahlamba | 14276 | 21899 | 28663 | 64838 | 143315 |
| KwaZulu/Natal Total | 732465 | 878236 | 936766 | 2547467 | 4683832 |

HOUSEHOLDS

Number of Households

There are 36 731 households in Okhahlamba, which is 2.1% of KwaZulu/Natal's households. The Okhahlamba household growth rate is 1.03%. There are 1 733 142 households in the whole of KwaZulu/Natal, which constitutes 19.90% of the entire country's 8 707 683 households. Refer to the table below.

Structure of Households

The largest category of households are the 20 480 rural settlements which have scattered informal dwellings. The second largest household type are the 11 953 rural settlements with scattered formal units. The third largest category are the 2 178 urban formal houses. Thus, in terms of household structure, the majority of the Okhahlamba population live in rural households.

Size of Households

On average the household size in Okhahlamba is 5.8 people, which is larger than the 4.8 average household size of KwaZulu/Natal as a whole.

Table: Settlement types, population and households in the magisterial district of Okhahlamba

| House Type | POP | H/H | INCOME | H/H + | POP + |
|--------------------------------------|--------|-------|-----------|-------|-------|
| Urban Formal Houses | 13601 | 2178 | 35472686 | 2.58 | 2.59 |
| Rural settlements Scattered Formal | 68972 | 11953 | 62379220 | 0.48 | -1.84 |
| Rural Settlements Scattered Informal | 121028 | 20480 | 78136917 | 0.52 | -1.84 |
| Rural Institution | 323 | 120 | 1435381 | 0.70 | -1.86 |
| Rural farm Labourer Informal | 1031 | 168 | 929376 | 0.40 | -1.84 |
| Rural Farm Labour Formal | 949 | 145 | 1337621 | 0.46 | -1.85 |
| Urban Informal Planned | 6146 | 1251 | 8849574 | 2.66 | 2.59 |
| Rural Farms | 2645 | 436 | 6813372 | 0.47 | -1.84 |
| | 214695 | 36731 | 195354147 | 1.03 | -0.74 |

| | | | |
|---------------------|-----------|---------|--------------|
| KwaZulu/Natal Total | 8386525 | 1733142 | 33879485271 |
| Percentage Okhu/KZN | 2.5% | 2.1% | |
| S Africa Total | 40 322362 | 8707683 | 224446180107 |
| Percentage KZN/SA | 20.80% | 19.21% | 36.99% |

EDUCATION⁴

KwaZulu/Natal is divided into eight Education Planning Regions. Okhahlamba falls into the Education Planning Region of Ladysmith. According to the GIS Unit of the Education Foundation (based on the 1991 Census and the 1991 HSRC data), the KwaZulu-Natal province, when compared to the rest of the country, is in a worse state in terms of education than any other province apart from the Eastern Cape. This is in terms of classroom deficit; teacher deficits; and classroom necessities such as teaching aids, stationary and books.

The average African pupil:teacher ratio in KwaZulu-Natal is 40:1. This is worse than the national norm of 37:1. The African pupil:teacher ratio in the magisterial district of Okhahlamba is 54:1. This is the fourth worst magisterial district in terms of pupil:teacher ratios in KwaZulu/Natal. The worst magisterial district in the province is Ezingolweni with a ratio of 58:1; followed by KwaMapumulo with 57; and Hlabisa with 56:1.

In KwaZulu/Natal there is a total deficit of 7 836 teachers, which is based on the assumption of a pupil:teacher ratio norm of 37:1. In Okhahlamba, the teacher deficit is 645. This is the sixth worst area in KwaZulu/Natal in terms of pupil:teacher ratios, which contributes 8.23% of the total provincial deficit.

ECONOMIC PROFILE

PROFILE OF ECONOMIC ACTIVITY AND THE ECONOMICALLY ACTIVE POPULATION

The majority of income earners in Okhahlamba (84%), earn less than R7 000 per annum and 14% earn between R7 001-R10 000 per annum. This can be compared to

⁴ Source: Unpublished document, prepared for J. May (DRA), by Krige, D And Badcock-Walters, P. Dec 1995 Education Development Strategy.

the entire KwaZulu/Natal where 69% earn less than R7 000 per annum and 9% of the entire population earn between R7 001-R10 000.

Table: Sectoral composition of the labour force

| Mag dist | Population | Income | Total income group | Percentage in income group | | | | | |
|-------------|------------|---------|--------------------|----------------------------|----------------------|---------------|------------------|---------------|------|
| | | | | TOTAL WITH INCOME | TOTAL WITH NO INCOME | A-E (R0-7000) | F (R7001-R10000) | G-K (R10000+) | A-E% |
| OKHAH-LAMBA | 214695 | 21607 | 172591 | 18212 | 2921 | 474 | 84.3% | 13.5% | 2.2% |
| KZN TOTAL | 8346157 | 2154172 | 5470295 | 1484959 | 484591 | 184622 | | | |
| OKH/KZN (%) | 2.5% | 1.0% | 3.1% | 1.2% | 0.6% | 0.3% | | | |

The above table shows the sectoral composition of the labour force in Okhahlamba and KwaZulu/Natal. In Okhahlamba, 33 957 people are economically active. This population is broken down into three categories, namely the formally employed (9947); the unemployed (18 137); and those active in the informal sector (5873).

In Okhahlamba the largest percentile category of labour are the 53.4% unemployed, while the comparative figure for KwaZulu/Natal is 25.2%. The second largest category in Okhahlamba is the 29.3% formally employed people. This figure is low when compared to the 55.9% who are formally employment in KwaZulu/Natal. The smallest category of labour in Okhahlamba are the 17.3% people active in the informal sector. This category of informal sector involvement is similar to the entire KwaZulu/Natal figure of 20.0%. Thus, the main difference between Okhahlamba and KwaZulu/Natal in terms of labour force composition lies in the almost inverse patterns between those formally employed and those unemployed.

In Okhahlamba the entire population is 194 198 people, of which 21 607 (11.2%) earn an income. This is well below the KwaZulu/Natal provincial figure where 547 0295 income earners constitute 28.3% of the entire population of 7 624 467.

The total population who earn an income are broken down into 11 types of income group categories. The largest category of income earners in Okhahlamba are those people that earn between R1 001 to R3 000 per annum, which constitutes 40.1% (8 665 people) of the income earning population. This means the average monthly income is below R250. The second largest category of income earners in Okhahlamba are those 3 160 people who earn between R3 000 to R5 000 per annum, which constitutes 14.6% of Okhahlamba's income earning population. Thus, of the entire Okhahlamba population only 11.2% earn an income, and of these 40.1% earn less than R250 per month and 14.6% earn on average below R84 per month.

The distribution of income earners is negatively skewed, with 84.3% earning between R0 - R7 000 per annum. This means that on average 84.3% of Okhahlamba's population earn an average monthly income below R583. This is significant as in

Okhahlamba the lowest category of income earners is much larger at 84.3% as compared to the KwaZulu/Natal figure of 68.9%.

The second largest category of income earners is between R7 001-R10 000 per annum. In Okhahlamba 13.5% of the income earning population fall in this category which is smaller than for the province as a whole (22.5%). Again, the percentage of people in each income group that earn in that category in Okhahlamba is smaller than for KwaZulu/Natal as a whole.

In terms of formal employment, in Okhahlamba, the largest economic activity sector in terms of employment is the manufacturing sector which employs 3 489 people (35% of the economically active population). The second largest category in KwaZulu/Natal is manufacturing with 24.8% of the economically active population. The manufacturing sector in Okhahlamba contributes a much larger component of the economically active population than does the entire KwaZulu/Natal.

The second largest economic sector in terms of employment is the community, social and personal services which provide jobs for 3 097 people (31.2% of the economically active population). In KwaZulu/Natal, the largest employment per economic category is also with community, social and personal services. In KwaZulu/Natal, this category employs 31.5% of the totally active population.

The third largest category in KwaZulu/Natal is commerce, catering and accommodation employing 14.3% of the economically active population. This is very similar to Okhahlamba where the commerce, catering and accommodation sector contributes 15.4% (1 530 people) of the economically active population.

Within Okhahlamba in 1991, in terms of Rand value, the total gross geographic product at factor and current prices was R60 806 000. The largest kind of economic activity is community services at a value of R23 245 000, which contributed 38.3% to the magisterial GGP in 1991. A shift occurred in the various economic sectors between 1980 and 1991, in terms of the relative share of the sector to the GGP. Most significantly, the percentile contribution of the manufacturing service sector grew from 19.41% to 26.31% between 1980 to 1991. This was the second largest sector in terms of contribution to the GDP.

The third largest sector in terms of economic value was the agriculture, forestry and fishing sector at a value of R9 491 000. The percentile contribution of this sector remained the third largest sector in Okhahlamba, but declined in the actual size of its contribution from 17.84% in 1980 to 15.61% in 1991. The fourth largest sector was the construction sector which produced R3 031 000 of the GGP (4.98%). The mining and quarrying sector grew by 2.4% of Okhahlamba's contribution to the GGP between 1980-1991. The mining and quarrying sector grew by 7.34% in KwaZulu/Natal as a whole.

In 1991 manufacturing produced R16 001 000 (26.31% of GGP). The manufacturing sector grew by 2.36% in Okhahlamba, while it declined by 0.49% in KwaZulu/Natal. In Okhahlamba, the electricity and water sector grew by 1.95%, which is larger than the 0.17% growth rate in KwaZulu/Natal for the same period. However, not all sectors

grew in Okhahlamba. In the trade and catering sector a decline by 4.2% in percentile contribution between 1980-1991 occurred, while a 4% growth was experienced in KwaZulu/Natal during the same period. The finances and real estate sector also experienced a marginal decline of 0.25% in Okhahlamba, but a growth of 1.27% in KwaZulu/Natal.

EMPLOYMENT AND INCOME GENERATING OPPORTUNITIES

If the average annual growth in the GDP per economic sector and magisterial district between 1980 and 1991 is considered, the sector with the highest growth rate was the mining and quarrying sector at 63.08%. This is significant as in the entire KwaZulu/Natal the growth rate declined by 0.49%. The second largest growth rate was 8.21% in the agriculture, forestry, and fishing sector. The third largest shift was in manufacturing with 6.62% in Okhahlamba is 6.17%. This is significant as the KwaZulu/Natal manufacturing declined by 0.09%. In the fourth largest category, the community services sector, the Okhahlamba growth rate of 5.48% displayed a similar trend to the KwaZulu/Natal growth rate of 4.03%. Another significant change in growth rates occurred in the trade and catering sector which declined by 4.97% in Okhahlamba, while it grew by 3.34% in KwaZulu/Natal.

On the whole, Okhahlamba's contribution to the GDP of KwaZulu/Natal declined from 0.74% in 1980 to 0.38% in 1991. This ranks it as the 23rd largest total percentage contribution to KwaZulu/Natal's GDP among all the magisterial districts. The mean for the GDP contribution by magisterial districts is 0.15 % and the range is 8.50.

AGRICULTURE

The agriculture, forestry and fishing sector is the third largest sector in terms of economic value and showed the second largest growth rate between 1980 to 1991, although the percentile contribution of this sector declined in actual size relative to the entire GDP.

In 1993, the agricultural sector in Okhahlamba produced 9% of the gross geographic product (GGP) to the value of R2,62 million (which is 0.24% of the GGP for KwaZulu/Natal). Thus, agriculture is a marginally more significant sector in Okhahlamba than in KwaZulu/Natal. In KwaZulu/Natal, agriculture provides 5.5% of the regional GGP.

Of the 24 730 rural household in Okhahlamba, 3 977 (16.08%) are classified as agriculturally active gardeners; 11 235 (45.43%) are subsistence cultivators; and 3 445 (13.93%) are farmers. There are two types of farmers, the 2 613 (10.57%) arable farming households and 832 (3.36%) livestock farming households. In 1993, there were no contract farming households in Okhahlamba .

The live agricultural produce in Okhahlamba magisterial district in 1993 consisted of 88 184 poultry (2.67% of KwaZulu/Natal's poultry) and 154 303 livestock (5.82% of KwaZulu/Natal's total livestock). The latter total is subdivided into the following five categories: 93 242 cattle; 14 709 sheep; 33 563 goats; 10 707 pigs; and 2 082 other types of livestock.

In conclusion, the Okhahlamba agricultural sector is small in terms of its contribution to the regional economy, but it is a significant sector on the magisterial district level.

ORGANISATIONAL PROFILE

There are over 150 NGOs, CBOs and governmental institutions involved in the Midlands area. Although many are based in Pietermaritzburg, their areas of jurisdiction extend up to and including the Okhahlamba area.

The process of establishing local government in the Midlands area at present has been stalled, particularly in the rural areas. Regional Authority appears not to have the capacity to administer the large rural component in Okhahlamba.

**APPENDIX 1A:
PARTICIPATORY RESEARCH EXERCISE I**

**THE POST-ELECTRIFICATION
OF LOSKOP**

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PARTICIPATORY RESEARCH EXERCISE I

On the 28 February 1996, this participatory research exercise was held in a classroom in the Mpumalanga Combined Primary within the Msweleni (IFP) community of Loskop. Homesteads in Msweleni were electrified between June and December 1995. There were 30 participants including the seven facilitators.

The descriptive findings of this exercise are presented.

The tasks undertaken focused on the following areas:

- fuel and appliance use
- women's daily time use analysis
- history of the settlement
- demographic profile income generating activities and electrification
- electrification process
- community services community organisations
- development initiatives

The list of participants are included in the table below.

PARTICIPANTS

| | Name | Occupation | Age | Standard |
|----|------------------------|-------------------------|-----|---------------|
| 1 | Gideon Mtshali | Chairman of the School | 50 | 4 |
| 2 | Thandekile Zuma | Secretary of the School | 59 | 7 |
| 3 | Doris Masagula | School Committee | 55 | 2 |
| 4 | Embi Nhlambo | Unemployed | 38 | 5 |
| 5 | Fedrica Nlswani | Unemployed | 56 | 4 |
| 6 | Victoria Mtshalitshali | Unemployed | 34 | 2 |
| 7 | Leonard Buthelezi | Unemployed | 32 | 1 |
| 8 | Jabulani Cebekhulu | Unemployed | 59 | none |
| 9 | Winile Ndaba | Dressmaker | 35 | 5 |
| 10 | Nomthethwa ndaba | Dressmaker | 34 | 4 |
| 11 | Nomusa Mazibuko | Dressmaker | 44 | 5 |
| 12 | Regina Khutsho | Unemployed | 41 | 3 |
| 13 | Josphena Mayiseia | Unemployed | 57 | none |
| 14 | Sizeni Kubheka | Hawker | 38 | none |
| 15 | Lindiwe Khanyeza | Unemployed | 29 | none |
| 16 | Nomusa Shezi | Unemployed | 40 | 2 |
| 17 | Ganeth Mthumkhulu | School Teacher | 55 | PTC |
| 18 | Bathabile Mbhele | Unemployed | 31 | 8 |
| 19 | Zacharia Sithole | Pensioner | 51 | 4 |
| 20 | Paulos Ngubane | Pensioner | 58 | 5 |
| 21 | Nhianhia Mnculwane | Principal | 35 | 8 |
| 22 | William Khumalo | Pensioner | 67 | 2 |
| 23 | Nomusa Mayisela | School Teacher | 47 | PTD |
| 24 | P.M. Despins (DRA) | Research Economist | 27 | PhD candidate |
| 25 | Graham Moor (DRA) | Research Economist | 25 | PhD candidate |
| 26 | Clare Hansmann (DRA) | Planner | 23 | MS candidate |
| 27 | Mhiezi Sibiyi (DRA) | Field Facilitator | 27 | Matric |
| 28 | Thulani Duma (DRA) | Field Facilitator | 24 | Matric |
| 29 | Richman Ndlovu (DRA) | Field Facilitator | 25 | Matric |
| 30 | Stavros Kargas (DRA) | Field Worker | 20 | Matric |

FUEL AND APPLIANCE USE

(facilitated by Mhlezi, Richman, Graham; observed by Thulani, Clare, Paula)

Task: to understand fuel and appliance combinations and the relevance of electricity in people's daily lives and household reproduction.

Instruments: Both an activity and a fuel matrix were filled in as a method to direct discussion about fuel and appliance combinations and energy use in the household. These activities were then supplemented by a flip-chart aided discussion on the preferences for and against electricity as a fuel source. The following discussion has also been supplemented by the time analysis results produced in a time-line creation project with Group A, later in the day.

Summary:

Activity Analysis

Cooking: Mothers are usually responsible for cooking meals but older children also participate

as well. A variety of appliance and fuel combinations are still used including paraffin stoves (pump/wick), wood/coal stoves, electric plates, gas plates, and wood fires. The paraffin stoves cost about 45R while a coal stove can cost as much as 3000R. Outside fires are still used in the preparation of the Zulu beer. Electricity is the most common fuel, particularly for families that were able to purchase electric plates. Almost all people still use wood for cooking as well, especially those who cannot afford electric appliances. Mothers usually determine the fuel and appliance combination but electric appliances are often purchased by migrant heads, working children, and pensioners. Mothers and working children residing in the home usually pay for the fuels involved: wood, paraffin, electricity.

Cooking is normally performed in 2-3 times daily. Breakfast preparation begins at 6:00 a.m. The tea takes about 10 minutes to prepare using a kettle. The porridge on a wood or coal stove takes approximately one hour. Lunch, if prepared, is cooked at midday. The most common meals are puthu and cabbage or chicken curry, all of which require about 1 hour to prepare. Amahewu may also be served after 30 minutes or so of preparation. Preparation for the evening meal begins between 4:00-6:00 p.m. Samp requires 3 hours to prepare on a wood fire. Curry and rice or puthu, takes about 1 hour. Supper is usually eaten around 7:00 p.m.

Heating Water: Mothers and children both participate in the heating of water for cooking, bathing, and washing. The most common fuel and appliance combinations include paraffin stoves, wood fires, electric and gas stoves. Wood is the main fuel to heat water in any quantity. Mothers and working children are again responsible for the purchase of fuels while fathers and adult working children buy the kettles or other electrical appliances.

Water is heated at breakfast for tea. It will also be heated for bathing just after breakfast and when the children return from school. After the children have left for school, water may be heated for washing dishes or clothes. Clothes are usually washed every other day.

Ironing: Older children are usually responsible for their own ironing and for that of the family generally. Ironing is done in the morning or the evening, every other day or so. It takes about an hour to complete the entire families clothes. Families still use electricity, coal stove, primer stoves, and firewood to fuel their appliances. The most common appliances are primer and coal stove heated irons. These irons cost about R50 while electric irons cost over R80.

Media: The most common media sources are portable radios, hi-fis and TVs. Anyone in the family can make the decision to use these items. The whole family usually listens to the radio between 6:00-7:00 a.m. to hear the news. Older people sometimes stay up all night (1:00 a.m. - 6:00 a.m.) to hear radio dramas. TV is usually watched between 6:00 and 9:00 p.m. on the weekdays and also between 3:00-5:00 p.m. on the week-ends.

The radios are still often powered by dry cell batteries as they have no obvious conversion mechanism to electricity. The TVs and Hi-Fis have been switched over from car battery and generator power to electrical power. The dry cell batteries, charging of the car batteries, and electricity are usually paid for by people who reside permanently in the home. The purchase of the appliances, however, rests with working fathers and adult children. A small radio costs R89 in Estcourt while a Hi-Fi can cost as much as R2000. It is possible to get a small black-and-white TV for R800 which will run on a car battery.

Ambient Heating: The most common sources of ambient heating are wood fires on indoor hearths and wood/coal stoves. Some people also have paraffin, gas, and electric heaters. Mothers and grandmothers usually make the decision to expend fuel for this purpose. The purchase of the heaters is made by mothers, pensioners, and fathers. The cheapest heater, run on paraffin, costs R55. A gas heater costs R199.99 in Estcourt and an electric heater with 2 bars, R150. These heaters are usually turned on from 5:00-8:00 a.m. in the morning and in the early evening until bedtime at 10:00 p.m. as well. People also try to enjoy the midday sun during the colder parts of

the year.

Ambient Cooling: Little fuel is currently used in this process although some people have purchased electric fans at a cost of roughly 300R. Most people simply open windows, take off their clothes, or find shady places on hot days. From 1:00-2:00 p.m. is usually the hottest part of the day. Purchase of fans was not felt to be a priority by the group.

Cleaning: Mothers take primary responsibility for cleaning the homestead although fathers sometimes participate as well. The group felt, though, that the latter did not do so with especial care. No fuel-driven appliances are used; rather brooms, water, polish, dung, and human power are used. Cleaning usually takes place in the first part of the morning, after the children have left for school.

Refrigeration: Gas and electric refrigerators are the most common sources of refrigeration, electricity now being the preferred source. The items are used to cool things for selling, meat for eating, and beer for fathers. Mothers make the decision to purchase but actual payment is made by fathers and adult working children as well. These refrigerators cost approximately R2500 and must be delivered by the shop where it is purchased in Estcourt.

Lighting: Most lighting is now supplied by electricity. Wires with a single globe appear in most structures. These lights are turned on from 5:00 -6:30 a.m. and from 6:45-10:00 p.m. Candles and paraffin lamps are used as back-up sources of light in the event of a power outage. They may also be used in structures with no electric globe. Electric lighting is believed to be safe, cheap, and effective.

Appliance Priorities

| Type of Appliance | Typical Order of Purchase | Number of Participants with this Appliance (23) | % of People in Community with this Appliance |
|-------------------|---------------------------|---|--|
| kettle | 1 | 12 | 70% |
| 2-plate stove | 2 | 11 | 80% |
| iron | 3 | 12 | 70% |
| heater | 4 | 7 | 33% |
| sewing machine | 10 | 0 | (only 2 people) |
| TV | 5 | 10 | 80% |
| fridge | 6 | 6 | 33% |
| battery charger | 11 | 0 | (only 2 people) |
| fan | 7 | 4 | 2% |
| mechanical tools | 9 | 1 | (only 4 people) |
| hi-fi | 8 | 5 | 50% |

Fuels Analysis:

Wood: As noted above, wood is used in cooking, ironing, and heating processes. The group also said its used as a fuel for making Zulu beer and braaing meat.¹ The beer is made outside on wood fire in a large pot and requires a lot of fuel. Collecting wood can take up to five hours. Mothers often buy it from a tractor at Mngweni (in Mpumalanga school). Its 15R for a wheelbarrow-full. It can cost 150R for a months supply, it has become increasingly expensive. Casual workers in the community can work for a few weeks on a farm and carry home a bundle each day as part of their wage. They also receive R6 in cash. Wood is considered a safe fuel source and the kinds that don't smoke too much, clean and healthy. The wood emits a lot of smoke as it burns is considered dirty and unhealthy.

¹ Wood is also used in burial processes where it covers the buried coffin, as well as in building and fencing. It is not a fuel source in this context but rather a construction material.

Dung/Mealie Cobs: These fuels are used for outside cooking, particularly for Zulu beer making, and ambient heating inside. The cobs are delivered by white farmers at the end of the shucking for milling process, once annually. They bring a truckful for their casual workers. There is no cost involved. People also use cobs from their fields if they have any. This free fuel is unfortunately only available seasonally and in short supply. The fire it creates does not burn for long either but is a strong heat source. Dung is also free and may be collected from anywhere except the inside of other people's kraals. It is a strong heat source but people find the smoke and smell unpleasant.

Paraffin: Paraffin is used in cooking, lighting, and ironing processes as noted above. It is also used to polish and candles. It is considered relatively cheap and easy to get, requiring about 30R for a month's supply of 25L from Estcourt, but the smoke is quite unpleasant. It can also poison food, requiring hospital trips for children with distended stomachs to check for paraffin toxicity. It can also burn people and cause older stoves to explode.

Gas: This fuel is used for heating, cooking, refrigeration, and lighting as well as for welding and mechanical operations. It is a quick, efficient fuel source but is considered both dangerous and expensive. Refills of gas containers can be obtained in Estcourt. Without refrigeration, approximately 2 size 10 containers will be used in a month at a total cost of R28. For refrigerators, costs run about R132, for 48kg or a two month supply.

Coal: This fuel is used in braziers and coal stoves for heating, cooking, and ironing. It is delivered in Mngweni where it is usually purchased by mothers for R6 for a small tin, roughly a weeks worth although some people use up to 3 tins a week. It makes a strong, consistent fire but it is very smoky, smells bad, and makes the house and roof very dirty, causing deterioration. It is not considered a safe fuel.

Candles: Candles are used for lighting and polishing although much less so than before. It is a

back-up light source for unelectrified buildings and power outages. Approximately 1 packet per week is purchased at the local store or in Estcourt at a cost of 2R. It is felt to be cheap, clean, and a reasonable light source but not safe as candles can fall over and makes a mess or even start fires if left unattended.

Rechargeable Batteries: Car batteries are used primarily to fuel larger media appliances like TVs and Hi-Fis. One charge costs about 6R and lasts a week. Recharging is considered relatively cheap. Two people in the community now have purchased rechargers, for R220 in Estcourt. Children usually take the battery to be recharged but it is heavy and liquid near the charge is toxic. The acid also causes burns and chokes children.

Dry Batteries: These are used primarily for FM portable radios. The batteries are purchased both locally and in Estcourt by children: PP10-R19.99; PM10-R16.50; small-R7. This fuel source is easy to handle and doesn't take up too much space. They sometimes explode though and can cause burns. When this happens, any dry powder will be used for making floor polish. People do not like how easy to steal these batteries are nor how quickly they are used up.

Petrol Generator: Generators are used primarily for lighting, TVs, Hi-Fis, and powering mechanical tools. Working children buy the petrol to fuel them in Estcourt and also locally. 5L costs R10 and lasts only 2 days. It has many of the advantages of electricity: it provides good lights, has plugs for appliances, and is a consistent source. It is actually easier to handle than electricity as it is mobile. The sound of motor is a nuisance though and it is expensive and complicated to run and maintain. It can also be dangerous for small children.

Electricity: Electricity powers space heaters, irons, hot plates, fans, radios, TVs, kettles, sewing machines, hair dryers, refrigerators, lights, and hand tools. The cost of use depends on the number of appliances. It is estimated with the basics: iron, hot plate, lights, kettle, media, and

refrigeration unit; to cost about R100 per month. Other typical break-downs might be: R20 for ironing and lighting, R50 for cooking and kettles, R10 for lighting only, R30 for cooking and ironing. All family members may contribute to the purchase of the cards. These can be obtained either at the local motel or in Estcourt. Electricity is a favored fuel because it is cheap and quick, easy to operate/use, very versatile, children can use it safely, it extends the working hours of the day particularly for light-intensive activities like sewing, and finally its convenience in terms of fuel purchase. Problems relating to its functioning are limited to brief power outages during rainstorms and lightning.

Why People Still Use Fuels Other Than Electricity...

In this session, people also engaged in a free discussion on why people still use sources of fuel other than electricity. Most people felt that everyone can afford to use electricity, in fact they felt the card system was "cheaper" than other billing systems. They also suggested that it is cheaper to use electricity in energy-intensive processes like cooking than it is to use fuels like gas. Still affordability is a constraint on electricity use: many electrical appliances are simply too expensive. This was raised repeatedly as the major constraint on electricity use.

People are also concerned that they may not possess sufficient information to operate electrical appliances safely. Older people, in particular, are not used to using these appliances and may be reluctant to alter their processes.

In addition, certain processes are ritualized around a particular fuel source or traditional preparation method. For instance people felt they would not want to use electricity to make Zulu beer. Other long-cooking foodstuffs like samp and beans, traditionally made in 3-legged pots, will also continue to be made over wood fires. For feasts, traditional wood fires would also be preferred both for ambience sake and more pragmatic considerations: pots of the size required for the number of guests will not generally fit on electric stoves.

TIME ANALYSIS: GROUP A

(facilitated by Thulani and Clare)

Task: to construct a time-line of women's daily activities, supplemented by questions about weekly, monthly, and seasonal variation.

Instrument: a wallchart with the sun rising, at midday, and setting drawn in in advance, series of prompts for the facilitators to query about if necessary.

This activity was used to generate information about the processes requiring energy which are used daily in household reproduction. It also provides information about how long activities take in a post-electrification context versus a pre-electrification context. It has the potential to highlight decision making power and income generation opportunities and constraints for women as well.

The women were first asked to describe their typical day, the bulk of this information is described below in the text as well as in the original chart included in this document. The women also filled in the typical day for a schoolchild and for a resident male head of household.

The day begins at 5:00 a.m. for most families. Heat (5:00-8:00) and lights (5:00-6:30) will be used at this time, subject to seasonal variation. The mother begin preparing a breakfast of porridge (one hour) and tea (10 minutes). The children will wash and get ready for school. The radio will be turned on between 6:00-7:00 to hear the news. During late spring and early summer, weeding will also begin about 6:00 and continue until 9:00 a.m. before it gets too hot outside.

The children will leave for school at 7:30 and the men will either leave for work or go "look for beer". With the house clear, the women go to collect water. Even with the standpipes, this process still takes 2-3 hours because multiple trips and long queues. Once water has been collected, the

women must clean the interior of the houses and sweep the yard. They will wash and iron the clothes every other day (1 hour). During the dry season and at holiday, women will also spend their mornings plastering and repairing the house.

If lunch is cooked, preparation usually occurs around midday. Puthu, cabbage and chicken curry are the staple foods. They require about 1 hour to prepare. Amahewu may also be served and requires 30 minutes to heat. In summer after lunch, people will seek shelter from the heat by removing clothing, opening windows, or going outside. Conversely, in the winter women will go outside to enjoy the warmth of the midday sun. Afterwards the women may catch up on their sewing or try to teach the younger children in the house. Later, according to the time of the year, the women may engage in more agricultural work such as weeding or harvesting.

In late afternoon, the women prepare for the return of the schoolchildren. When the children come home they are often sent to collect more water or wood. They may also do ironing and dishwashing as well as assisting in the preparation of the evening meal which begins at about 4:00. Younger boys may be sent to collect the livestock from the field. The children will also bathe before supper.

The supper of curry and rice (1 hour) or samp (3 hours) will be eaten at 7:00. The lights will be usually have been turned on at this time and will stay on until the family retires for the evening as will the heating source during the winter. After supper, the children will study or join the rest of the family in enjoying TV. Following prayers, the family goes to bed by 10:00 p.m.

This schedule varies only slightly from week-to-week, month-to-month, and season-to-season. The only regular weekly activity is church on Sunday. During the month, the most important days are pension day with its impromptu market and social gathering and the monthly mobile clinic visit. The women report only limited agricultural involvement on a seasonal timing structure

typical for the region: planting in the spring after the rains come, weeding in the late spring and early summer, harvest of garden vegetables and green mealies in mid- to late summer and harvest of dry maize in May and June. Some of the other income or consumption generation activities mentioned in the business and livelihood section would also seem to have a seasonal component but the facilitators were unable to elicit any more information about this in this exercise. The main annual events are Christmas and Easter when the migrants from Gauteng and Durban return home and the house, food, and clothes of the family require special attention.

History of the Settlement: Group B

(facilitated by Thulani, Stavros, and Richman)

Task: to elicit the community's perception of their own history

Instrument: a historical time-line constructed using prompts

Beginning of Time: The people who now live in Loskop came from a place called Nokhesheni which was named for the chiefs of that area. This area was in mountains and the people lived on the slopes.

1850: A chief named Phuthini divided the area of Loskop in two and settled the people there. The main reason for the move was to obtain more arable land. It had been very difficult to cultivate on the mountainsides. Chief Phuthini controlled one half of the community, his brother-in-law Langalibalele, the other half.

1910: The first church, part of the Mahon Mission, came to this area.

1943: A serious disease, small-pox, strikes the community. An estimated 90% of the population is believed to have died then.

1945: An animal disease, ulandapens, strikes and kills 70% of the animals.

1949: Locusts swarmed and destroyed all of the crops.

1968: The community suffers from an earthquake which breaks furniture but little else.

1975: That year there was a very bad drought. There was also an outbreak of cholera which

fortunately claimed no lives.

1976: The primary school opened.

1977: The first shop, Mpumalanga, was opened as was the high school.

1995: The standpipes are installed and electricity comes to Loskop extension.

Violence, endemic to the community at present, has recent origins but the group did not raise this as an issue. The community also could not name the beginning of the mobile clinic system.

Demographic Profile: Group B

(facilitated by Thulani, Stavros, and Richman)

Task: to determine the community's assessment of their demographic structure

Instrument: structured questions and disks and tacks for household composition

The group estimated the population of Loskop as 12,000, 8,000 of which are women and 4,000 of which are men. Only about 1,500 men actually live here during the week and perhaps 100 more visit every weekend.

The number of households was estimated to be about 1,000. When asked to describe their own household composition, the participants offered the following:

2 households with 1-6 members;

5 households with 7-10 members; and

1 household with 11-15 members.

The composition was of the group weighted heavily towards older members of the community who are not yet pensioners so the dependency ratio may not be reflective of the community at large.

The group also supplied information about typical income sources in the community. They estimated in their own area, Loskop Extension, that 80% of the households have at least one migrant worker in Pietermaritzburg, Durban, or Johannesburg. Earlier the entire group had estimated that 40% of households in Loskop have a migrant worker. The other area appeared to be more heavily involved with local shoe factory which may account for some of the difference in figures. 20% of the households in Loskop Extension generally had a wage worker who worked nearby, mainly in Estcourt. A further 20% of households had a pensioner residing with them.

Income Generating Activities and Electrification: Group B

(facilitated by Thulani, Paula, and Richman)

Group B, comprised of the men and the three oldest women, was asked to list the various income generating activities within the community. They listed:

- factory work
- wage work in Estcourt
- farm work on commercial farms in the area
- domestic work
- migrant labor to Pietermaritzburg, Gauteng, and Durban
- teaching at the creche or at school
- minding children
- pensions
- selling snacks outside the school
- selling beers/meat
- selling lollies and ice cream (A)
- selling fruit (A)
- spaza shop
- selling maize
- ploughing
- selling wood
- selling thatching materials
- sewing
- making Zulu mats
- building houses
- building toilets (A)

- brick making
- thatching
- welding
- taxi driving

Most of these activities have not been affected by the advent of electricity. However, they group noted that more people sell food products now than before as refrigerators have replaced cool boxes. The sale of ice lollies and ice cream is also possible now. There is one dressmaker who uses an electric machine and the others would like to get one to replace their hand-driven machines soon. The group felt that a hair salon may open as well as a result of the electrification.

Feeling that job creation was vital, the group expressed a desire to not belabor current income opportunities lest it detract from the perceived importance of job creation programmes.

The factory work is largely at the local Bata shoe factory located on the edge of the town. Group A estimated that 5% of the population was employed there. Information on the number of migrants and pensioners is contained in the Demographic Profile. Group A also made a supplementary list of activities which included selling lollies, ice cream, and fruit as well as building toilets (these are marked with an "A" on the list above).

Electrification Process - Perceptions of Group B

(Facilitators: Thulani, Paula, and Richman)

Consultation: A community meeting was called in June where they were informed that the installation of electricity would begin and the names of those who wanted electricity were taken. No other information was offered then or later, nor were any opinions solicited. Gideon Mthshali, chairman of the school board, and Nhlanhla Mnculwane, the school principal, were chosen by the community to liaise with Eskom as needed. There is no electricity committee as such but both men are on the development committee. No community-based followup has occurred.

Installation Process: The mapping was performed in August 1990 as was a survey of who wanted electricity. Installation process was begun in June and completed in this area in December 1995. People from the community were hired to help put in the poles. The Eskom representative decided where each box would go according to the rainproofness of the structures in each homestead. The installation officer left a letter at the time of installation instructing the household to go to the Estcourt Eskom office to pay a 45R installation fee. An Eskom officer did revisit to check that the meter was working and that the wiring appeared safe. Some homesteads did not receive electricity as their houses were deemed to spread too far away from the main areas. These houses are mostly up on the southern foothills (Ezengenyamani).

Wiring Process: Eskom wired only the school. People from the community, like migrants or people who work for the Eskom office in Estcourt, who had experienced electricity in the urban areas helped the people wire their homes. These people provide the maintenance as well if asked. Small fees are charged to people outside the wirer's household. High school students were also given some instruction as school and they and the other children also helped wire people's homes. No one has extra plugs, everyone must use the meter box but this is not deemed problematic at

this level of appliance use.

Community Services Electrification: Eskom itself handled the installation of electricity at the school and provided the installation of all of the wiring. The parents must pay for the actual usage. The creche is also electrified and the parents are responsible for all of the expenses related to it. The creche committee made the decision to have it electrified. The church was also electrified and the congregation pays for the service. There are no other community facilities in the area. They also do not have street lights nor were they consulted by Eskom about this possibility. People feel it could greatly enhance their sense of security in this violent area.

Supply Level: It is very difficult to run several appliances at one time. Even a 2-plate stove and kettle going can sometimes cause a short. The supply is quite consistent however with breaks in service occurring only during rainstorms and/or bouts of lightning. Even these breaks are quite short, lasting on average only 3-5 minutes.

Cost: The installation fee was manageable for everyone and no one believes there is a problem paying for usage each month at their current level of appliance use. People estimate that the average expenditure in the community per month is no more than 30-40R. This is generally paid by the household head. Electrical appliances, however, are very expensive to purchase and most households possess very few which limits their electricity demand. Some people only use electricity for lighting as a result. Eskom did not offer an appliance package and most people purchased in Estcourt. They anticipate that repair services for these appliances will be available there as well.

Dangers: No information was provided on the use or dangers of electricity as noted above. People have heard from city people though that they mustn't operate electrical appliances with wet hands and they must be careful plugging and unplugging them. No one has had any dangerous

2
experiences yet with electricity.

Overall Perceptions: Despite the low-level of community consultation, the actual delivery is believed to have been done fairly successfully with the exception of the exclusion of part of the community. They like how easy cooking, lighting, heating water, refrigeration, and listening to the radio has become.

Electrification Process - Perceptions of Group A

(Facilitators: Mhlezi and Clare)

Consultation: They first heard that they would get electricity in September 1990 from Eskom officers in Colenso at a meeting attended by an elected 7 person delegation from Loskop. There was a meeting with the community held in Msweleni in 1992. No information about cost or safety was provided nor were opinions solicited about which areas to electrify or which payment system to use. Eskom does followup with the service committee but it takes a long time to get feedback.

(What does this mean...)

Installation Process: Eskom came back to the community in June 1995 and put yellow numbers on the doors and took the ID numbers of those wanting electricity. They installed the poles around the area and then began installing the boxes. The community asked that the boxes be put in the kitchen. Some households did not get electricity due to their spread out spatial distribution.

Wiring Process: The oldest males in the household as well as some community members did the wiring. These neighbours charged 22R to put a plug and lights in every room (are you sure about the plug - we didn't see any plugs, only globes). The household head is responsible for maintenance; in their absence the household must hire someone.

Community Services Electrification: The school principal and the community decided to have the school electrified. Eskom paid for this. Each household contributes R1 per pupil annually. There was no consultation by Eskom on the issue of street lights.

Supply Level: Electricity in the community generally only cuts off during heavy rainstorms with strong winds. There is no way to prevent this sort of outage. Candles, paraffin, and gas can be used for backup when this occurs. In households, use of multiple appliances will overload the system. You can run a stove and an iron at the same time but not the kettle and the iron or any other combinations.

Cost: The only cost to the households with respect to installation was the meter box. There is no flat rate payable each month, you are only charged for what you use. The cost of useage is no problem at current appliance requirements but the cost of the appliances themselves is prohibitive. No appliance package was offered by Eskom. Generally household heads pay for the usage costs.

Dangers: They have not experienced any danger but they know its possible to get a shock if there is water on the table they are using for instance. They feel you can prevent dangerous information if someone will give you information about how to do this.

Overall Perceptions: They are not satisfied with the level of consuitation which has occured and feel that they have insufficient information to use electricity to their full advantage. They also are concerned that some households did not get electricity.

Community Services (Group A)

(facilitated by Mhlezi and Clare)

Task:

- List and Prioritize Existing Services
- List and Prioritize Services Desired

Summary:

This group was made up of the women who attended save for the three eldest who joined the other group to help with the description of the community. They were asked to list all of the services and public facilities currently available in the community. They did so as follows: dongas (need to remove them), roads, water, creche, clinic, shop, school, transport, and employment. They were then asked to participate in a ranking exercise designed to elicit community perceptions of the importance of these services and facilities to their lives. The process is described in detail below the tables listing the results. Group B was asked similar questions to check for variation along gender lines but the results were nearly identical to those for Group A.

Roads were ranked as the top priority followed by water and the school and employment. These are services which feature strongly in their lives and are considered a priority for development. The other services did receive support as well but not as strongly, featuring with 5% or less of the total vote. Group B particularly stressed the importance of improving roads and job creation in the area.

Group A was then asked to list which public goods still need to be provided in the community. They suggested a community hall, recreation facilities, public and private phones, street lights, and water in the homesteads. The group then voted for which facility should be prioritized. Private phones, water, and street lights received the majority of votes while the community hall and recreation facilities received only 2 and 1 votes, respectively. Public phones received no votes

for first priority. The group also engaged in a discussion of the electrification of services (see above - electrification process).²

² Other items on the agenda were not ultimately discussed due to waning participation levels suggesting respondent exhaustion.

Services -- Now

| Services Currently Available | % of the Total Allocation | Relative Importance (total points out of 40) |
|------------------------------|---------------------------|--|
| Dongas | 5.0% | 2 |
| Roads | 32.5% | 13 |
| Water | 22.5% | 9 |
| Creche | 5.0% | 2 |
| Clinic | 2.5% | 1 |
| Shop | 2.5% | 1 |
| School | 15% | 6 |
| Transport | 2.5% | 1 |
| Employment | 12.5% | 5 |

Interpretation: The community group was asked to identify the key services or public goods available in the area. They listed: dongas, roads, water, creche, clinic, shop, school, transport, employment. Two members were then given 20 tacks each and instructed to lay tacks on disks on the floor with service identified on them according to the importance they gave them for the community. The rest of the group was then asked to instruct the two to reallocate the tacks if the group did not agree with their allocation. The table above provides the final outcome. We believe that the members were ranking what they viewed as both important in their current state and important areas for further development e.g. dongas were listed because they are presently a problem, roads scored highly because people felt better roads were important for the community. Roads indeed received the highest allocation of tacks, 32.5% of them. Water received 22.5% and the school, another 15%. Employment received 12.5% of the vote. The remainder had 5% or less of the vote.

Services -- Future

| Future Services (as suggested by the focus group) | Vote Tally for Most Important Service Needed (14) | % of the Vote Garnered |
|---|---|------------------------|
| Community Hall | 2 | 14.3% |
| Recreation Facilities | 1 | 7.1% |
| Public Phone | 0 | 0.0% |
| Private Phones | 4 | 28.6% |
| Street Lights | 3 | 21.4% |
| Water in Homestead | 4 | 28.6% |

Interpretation: Following the ranking of existing services, the group was then asked to list services which they would like to see become available in the future. They mentioned a community hall, recreation facilities, public phones, private phones, street lights, and water in the homesteads. They were then asked to vote for the one they felt was most important to provide first. The results are listed in the table above. Private phones and water in the homestead both received 4 of the 14 votes, while street lights followed closely with 3 votes. A community hall received 2 votes while recreation facilities received 1 vote and public phones, none at all.³

³ It may be important to note that we were identified as associated with Eskom and the issue of street lights was raised earlier in the discussion as something that Eskom may have input into. It is also potentially important that a Telkom truck was on site that day and that the community is currently negotiating with the government over more access to water

Community Organizations: Group B
(facilitated by Thulani and Paula)

Task: To enumerate and describe community organizations

Group B, consisting of the men in the group plus the three oldest women at the meeting, was asked to enumerate the community organizations. They listed:

- water/development committees
- creche committee
- school committee
- church committee
- sewing committee
- burial society

The water/development committees were organized for 11 areas (defined according to standpipe location) with 9 members each. The committee is responsible for dealing with water problems and for raising other development issues. They are currently negotiating with the government to increase the availability of standpipes. The members of the committees were elected by the community last year and the system is perceived to work well. The school committee is also elected and is headed by Gideon Mtshali. The other members included school staff and other educated members of the community. The remaining committees are made up of interested parties e.g. the sewing committee members are the local dressmakers. The burial society is the only local savings group of any kind, no stokvels have been organized although people do use the banks in Estcourt on an individual basis.

Community Organizations: Group A

Group A was also asked, somewhat more informally, for a list community organizations to provide a cross-check for gendered responses. The women listed the water committees, school committee, sewing club, creche committee, a health committee to govern the clinic, and a nutrition programme.

Development Initiatives: Groups A & B separately

(Group A facilitated by Mhlezi and Clare, Group B facilitated by Stavros and Thulani)

Both groups were asked to discuss past, present, and future development initiatives in the community. Group A, the women's group, cited the JSB Tugela project to build toilets. This office was also involved in the standpipe installation. They also described how extension officers from the agriculture office in Loskop had been involved in several training projects in the area. They mentioned classes on sewing, making porridge, squeezing juice, creche teacher training, and community gardening.

While there are various sub-committees to deal with the standpipes, as described in the community organizations section, there are no formal local development activities. The community did try to organize a road improvement project with everyone household contributing 20R for this purpose, the contractors hired to use the tractor never came to do the work.

Group B listed the JSB, Eskom, and Telkom as the government agencies/NGOs that work in the area. A telephone project is underway currently and a public phone was installed. The school has also received a phone. The JSB is involved in water supply and the subcommittees for the standpipes liase with them. These standpipes were installed last year, 1995 and are fed through a borehole.

**APPENDIX 2:
PARTICIPATORY RESEARCH EXERCISE II**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Centre
25 March, 1996**

| | |
|-----------------------------|------------------------------------|
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PARTICIPATORY RESEARCH ACTIVITY II

INTRODUCTION

In the post-electrification study of Loskop, a KwaZulu-Natal village comprised of households electrified with 60 A electricity supply, it was found that most respondents claimed to use electricity widely. They found it a clean, quick and orderless fuel. The respondents said they did not use paraffin as it was more expensive than electricity. However, it was cheaper and more accessible than gas. It appeared that the respondents were giving their "idealised" fuel use patterns, rather than those which took account of their economic circumstances. This seemed to be influenced by the fact that the respondents did not want to admit they used other fuels (besides electricity) and the participant's willingness to please the researchers. The respondents repeatedly mentioned the status associated with electrification - as rooted in the fact that it was initially only a few, relatively wealthy households, who were able to install electricity in the community. And this may well have influenced their readiness to admit they the true extent of their usage. Electricity was undoubtedly use widely for lighting. The respondent's claim to use it widely for cooking was to be questioned, as confirmed in the time-line they said they cooked the evening meal on paraffin.

The participatory research exercise obtained a wide array of information, in some case not holding a direct baring on energy consumption. However, it provided the context in which the people of Loskop lived; some descriptive demographics; the ranking of local structures and facilities; historical information on the settlement and the electrification process. The women participant's provided information on their fuel and appliance preferences and a description of a typical day as experienced by the people of the community. Both activities were very generalised and the participant's appeared reluctant to elaborate.

With regards the electrification process, the participants were content and found it to be equitable as it allowed the entire community, within the geographic locality of phase one, the same opportunities to receive electricity. The process, as implemented by Eskom, seemed quite efficient, although there were some areas of concern, such as the lack of transfer of knowledge on electricity and the appliance package. The community felt Eskom provided fast follow-up on their technical problems, as experienced by individual households.

PARTICIPATORY RESEARCH EXERCISE

On 12 March 1995, between 12h00 and 15h30, a participatory research exercise was held. Although the participatory exercises were used, in some cases individual interviews were conducted to clarify certain findings, or as in the case of the sensitive nature of the more recent community history, used to avoid threatening questions. The male participants claimed that it was not "permissible" to ask questions about the conflict.

The participatory research exercises was held on the front veranda of the homestead of the motel owner. The motel owner and his immediate family were not present, nor were they involved in any of the preparations. The 12 participants comprised six men and six women

from the Loskop community (electrified between 1992/3 and 1994). There were two PR facilitators: Clare Hansmann and Faith Hlongwa.

The participants were selected by a person from the community, who assisted in the community liaison. She was requested to obtain a random sample of community members from different gender, occupation, age and income categories. Another selection criteria was that none of the participants should come from the same homesteads. In some cases, the participants did have the same surnames, but it was verified that they were indeed from different homesteads and not direct relations. The facilitators were satisfied with the sample, although it should be borne in mind that the person who did the final selections "in all likelihood" drew on her own social network to obtain the participants.

The report considers the findings of the PR exercise that was undertaken within Loskop. The participatory research exercise was divided into a number of activities focusing on various components of the Loskop community, their household consumption patterns and their experiences with electrification.

The main activities included:

- obtaining a qualitative demographic profile;
- a historical time-line with the male participants; while
- the female participants completed a daily time-line;
- a mapping exercise;
- an assessment of the community structures or services, using a Venn diagram;
- a focus group on the electrification process and consultation; and
- a fuel / appliance matrix.

DEMOGRAPHICS

The research data used for compiling this report were all qualitative. The figures quoted in this section on demographics were obtained through estimates from the community. Each figure given was discussed by the community and adjusted until all the participants reached consensus. These population demographics were identified for the entire community of Loskop, in a similar participatory research exercise held two weeks prior to this one¹. The information is relevant as it was used to project demographics for the entire Loskop community, as opposed to only those people that had received electricity to date.

The population of Loskop was estimated by the group at approximately 12 000, which comprises of an estimated of 1 000 households. This figure appears a bit conservative, as the community seems much larger than this. The men to women ratio was estimated as 1:2. There are 1 500 men in the area during the week who are mainly unemployed. About 100 more men visit the area at the weekends.

The participants were given an opportunity to say what size they estimated the households in the area to be as indicated using a bean-ranking system. The various household sizes were written on cards. The community were given 10 beans and told to distribute them as if they represented the communities households. The findings were as follows:

- 20% of the households have 1-6 members.
- 50% of the households have 7-10 members.
- 10% of the households have 11-15 members.
- 20% of the households have 16+ members.

A similar exercise was undertaken to show other indicators of the community demographics, such as migrancy and pensioners. The findings were as follows:

- 80% households have a migrant mainly in Gauteng, Pietermaritzburg and Durban.
- 20% households have a wage worker mainly in Estcourt.
- 20% of the households have a pensioner.

¹ On the 28 February 1996, a PR exercise was held in Loskop with people who had been electrified between June 1995 and December 1995.

HISTORY OF LOSKOP

HISTORICAL TIME LINE

This section includes the findings of two historical time-line activities undertaken within two different geographical sectors of Loskop. The one sector is IFP dominated and was electrified between July and December 1995, while the other sector is ANC dominated and was electrified between 1992/3 and 1994. The two settlements comprised the two halves of the same geographic area: the IFP area with a recent electrification history, and the ANC dominated area with a relatively longer electrification history.

In the second participatory research exercise (held in the ANC area), the male participants were asked to construct a historical time-line of Loskop, outlining all the significant events in area from as far back as they could remember. The men were not very co-operative in this exercise, and for this reason the findings of a previous participatory research exercise² (conducted in the IFP area) was useful for outlining the more recent history of the community.

History within the IFP dominated part of Loskop

The oldest living person in Loskop is Chief Njwayeli who is 80 years old. In the other PR exercise, held in the ANC dominated area, he was also identified as one of the oldest people in Loskop. This indicated that the people in Loskop do view the community as one entity, even though there is a political divide.

As far back as the participants could remember, the roots of the community lie in a settlement located away from the present location nearer the Drakensberg Mountain Range, called Nokhesheni. The name comes from the chief of that place. At a similar time, in the present day location of Loskop, another chief named Phuthini divided the area of Loskop in two and gave half to his brother-in-law, Langalibalele. This occurred in order to share the responsibility of cultivation between the two chiefs, Phuthini and Langalibalele. This took place somewhere around 1850. The first inhabitation of Loskop took place in 1850, when people emigrated from the Nokhesheni nearer the Drakensberg Mountains to Loskop. The people who moved from the mountains did so as they felt the options for cultivating the land in the mountain were limited.

The history of the services in the area was plotted on the time line. The first church in this community was of the Mahon mission and was built in about 1910. A clinic system does not operate in Loskop. The first shop in the area was Phumalanga, and was built in 1977. The education system was developed in the 1970s. The primary school started to operate in 1976 and the high school opened in 1995.

There were a number of natural disasters identified in Loskop's history. In 1943, a serious bout of small pox hit the community. An estimated 90% of the population died. In 1945, a serious disease broke out in the area. This time it was not the people who were directly at risk but the animals. The disease was referred to as 'ulandapens'

² On the 28 February 1996, a PR exercise was held in Loskop with people who had been electrified between June 1995 and December 1995.

by the local community and about 70% of the livestock died. In 1949, a locust plague destroyed all the crops of the year. In 1968, the community suffered from an earthquake. However, the damage was not too serious with no lives lost and only a few pieces of furniture broken. In 1975, Loskop suffered from drought. Also, there was a small outbreak of Cholera. This was linked to the unhygienic drinking water. There were no lives lost. The participant's interest started to dwindle and they became reluctant to talk about the more recent community history. This was probably the reason why the effects of the 1983/4 and 1992/3 drought were not mentioned.

The organizations that are involved in the community are the Joint Service Board (JSB), ESKOM and TELKOM. Some community members are involved in the water committee - the formation of which was suggested by the JSB. The local government was not too actively involved in the development of the area. In 1995, a borehole with communal taps was installed and provided groundwater to the community. This was identified by the previous participatory exercise as well. The initiative identified as following this was the installation of electricity to certain sections of the community. The most recent initiative was the installation of two public phones, one at the school and one at the motel (the latter has been broken by vandals).

History within the ANC dominated part of Loskop

The male participants in this time-line exercise all came from the ANC dominated area. The four oldest community members in Loskop were identified as Puntini Mzibuko; Njwayeli; Vema; and Sipewe. Although the exact ages of these men were not known, the men said that they expected them to have been born around the turn of the century.

Of the participants, the oldest man was born in 1939. He described the area as being very traditional when he was young. There were no brick buildings, nor any infrastructure such as electricity lines. The building structures in the community were made up of round huts, with mud walls and thatch roofs. There were also many cattle that grazed in the area.

By the early 1960s the appearance of the community started to change. Most significantly, the appearance of iron houses was noted. The community participants referred to this as modernization. Although there were still many traditional huts, these slowly were replaced by square cement and iron buildings. By the mid-1980s there were only square buildings (made either with mud-cement bricks or conventional bricks).

In 1967/77 (the participants were unable to be specific) there were forced removals, although the participants did not use these words. Rather they described the events as being a process whereby they were asked to move from the land by the local white farmer. Some of the people did move, while others remained. From this point on, Loskop was described as having a dual history. The people that were prepared to move were taken to a place where there were people already resettled from other areas in KwaZulu-Natal. The conditions were described as over-crowded and people complained of insufficient land for grazing and most households were forced to get rid of their cattle. Those people who remained in Loskop tried to hold on to their traditional way of life. However, the spate of natural disasters and growing dependence on migrant remittances, rapidly eroded the agricultural base.

The male participants did not want to talk about the recent history of Loskop, and even probing did not work. The men said they were not prepared to talk about the violence in the area as it was not correct to do so. The women (as discussed in the section on the recent history) were prepared to discuss the recent history of Loskop. The men were prepared to talk about natural disasters that have occurred in Loskop. In 1973 and 1979, there were significant floods which resulted in widespread damage. Again in 1987, more floods occurred which were followed by an outbreak of pink eye and diarrhea.

RECENT HISTORY

The information in this section is comprised of a number of informal interviews with various people in the community, such as people collecting pensions at Pension Day; people working in the motel; some school teachers; and people approaching the PR team inquiring about their activities in Loskop. Although a substantial amount of this section is comprised of information from a person on the development committee, the other informal encounters were used as a way to ameliorate what was said. It should be noted that this information was not collected in this exercise, but for the continuity of this section it is included.

The years of 1994 and 1995 were the worst for the community of Loskop, as the violence was rife and unpredictable. The situation was worsened by the fact that it was not just violence but also crime. In the last couple of months, the political climate has settled down substantially. This was attributed to the community policing of the area. Community policing was found to be an effective way of addressing violence and crime, particularly in a community which does not have street lighting and where the existing police force is too small to effectively patrol the area. The community police are people who live in the area, and are thus well acquainted with the local foot path network.

The community policing consist of two main political groupings, the ANC and IFP. This initiative intended to address crime reduction, rather than political violence. This is a strategic definition of function, given the constraints placed on local political organisation in terms of the national body disagreements. It is still difficult to form this community policing structure because of the political differences. Overall, those people involved in this initiative found that within both political persuasions there were people who did not "believe in peace or compromise". This internal disagreement was strongly perpetuated by the male community members. The female members seemed to be more ready to work together for the betterment of the community.

The general opinion was that the system of community policing worked well as seen by the reduction of violence, and the community's willingness to work hand-in-hand with the police. There are day and night community police patrols that are made up of volunteers. The community work with the police by informing them about the area to give them an insider's perspective. The community still impose their own disciplinary actions on a perpetrator, if caught. However, the state police are involved to ensure that the punishment is not too severe and the person is handed over to the police.

The women participant's said that the relationship between the ANC and the IFP it is on an informal level. For instance, some know each other from the same church groups. There was a current initiative by the women on the development committee to address the ANC-IFP disjuncture. The week after the research teams' visits to Loskop, the (ANC) development committee was meeting with the IFP Women's League to try to include them in the development committee structure. The present disparity meant that resources were obtained for only the structurally organised (ANC dominated) side of Loskop.

The issues that the meeting attends addressing include the possibilities of forming one development committee and various other means by which the women could come together. It was felt that the it was difficult for the men to come together over this issue as they hold grudges, whereas women were viewed as the natural peace-makers. The outcome of this meeting is still to be seen. Furthermore, women had more issues over which to unite in Loskop because of their clearly defined reproductive (domestic) roles.

DEVELOPMENT COMMITTEE

A certain components of the history of Loskop were obtained from individual interviews. This was necessary as much information was of a sensitive nature since it was associated with Loskop's tense political situation.

Woman from the local development committee were interviewed at length to obtain an understanding of the recent initiatives in the area. A development committee was formed in 1995. The reason for its formation was the community's recognition that they needed the help of outside service providers to see development occur in the area. It was felt that the community service providers would require a democratic development body through which to work. The main development concerns were the poor roads and the lack of water in the area. The development committee took action on both issues. A letter was written to the them Minister of Transport, Sbu Ndebele, but no response has yet been received. A more successful application was sent to the Joint Services Board. In response to this, communal taps were installed Loskop.

Although it is not a prerequisite to belong to a particular political party, all the existing members belong to the ANC. This is linked to the fact that it was an ANC initiative to form this development committee. The idea for the development committee came about in an interesting manner. A person in the community heard someone talk about a development committee over the radio. She then talked to other people in the community about the advantages of this committee and a community meeting was held where the issue was addressed.

At first a development committee consisting of three people was selected (a woman and two men). Two of these people were locally based, while the one man worked in Ladysmith, returning to the community every weekend. This man is responsible for undertaking all correspondence. At a later stage, the community elected more committee members and the development committee was increased in size to six members. This was associated with a change in its function towards being an umbrella body over five sub-committees. The various sub-committees are formed around specific services such as water, schools, electricity, roads and pre-schools.

The main progress of the development committee thus far is the formation of the development structures, such as the sub-committees and the installation of taps from the Joint Services Board. The main strength of this committee is that it allows for the potential for political structures to be separate from the development structures. However, this move is still to be witnessed.

COMMUNITY MAPPING OF LOSKOP

MAPPING PROCESS

The 12 participants were briefed about the requirements for the mapping exercise. They were asked to draw every structure and the main transport routes in the community, except for the individual dwelling units.

From the outset, the men seemed particularly eager to start, taking the pens and the mapping paper. Even though the equipment was in the control of the men, the women participated well. Both groupings agreed that the place to start was the main road through Loskop. Thereafter, the motel was drawn, from which the foot path down to Mbongeleni High School was drawn. The motel was used as a starting point because it was where we were holding the participatory research exercise. The motel was the first structure past which the community pass as they enter Mqudandaba.

There was a lot of debate between the participants about where to locate the other structures, once the school and the motel were drawn. The men were pushing for the railway lines to be drawn first. The women said the taxi terminal was a more important feature and it should be drawn first. The men told the women to keep quiet as they were drawing. It appears that the men were not giving the women a chance to decide on how the map would be drawn. At this point, an individual man got another piece of paper and started to draw. The women in unison took the first map over and got new pens. From this point forward the women went about creating their own map and the men continued with a separate map. A certain degree of interaction continued between the men's and the women's groups. The man predominately in charge of drawing the men's map was the person who was employed as the security guard at the High School. The participants felt the level of literacy in the community was KwaZulu/Natal.

The women started by placing the main structures on the chart. The road was added in on a more conceptual level, rather than as an accurate representation of the existing road structure. The men, on the other hand, went into great detail, giving a very accurate map of the roads with all the main footpaths in Loskop, along with the railway line. The men told the women that all the structures make the map confusing. Broadly speaking, it appeared the men were more technical and the women more conceptual.

The male participants were less concerned about the structures in the community than the women. Men were concerned about the transport routes, such as the footpaths and the roads. The men did add the structures on to their map as an after-thought when one of the women commented on the fact that an outsider would not be able locate themselves in the map without them. The men at this pointed added the location of the structures.

MAPPING FINDINGS

The first items drawn on the map by the men were the roads, rivers, schools and beer-halls, while the women drew the school, church and crèche. The men seemed to disregard the schools, churches and crèches which indicates that they are not as concerned about these facilities as the women. The women on the other hand, placed these facilities on the map first. The women indicated that they were more affected by these facilities than the men. They said that they take responsibility for the children and in terms of relationships, the women are closer to the children than were the men. One participant gave the example that after school the children go home to their mothers and tell them about their school experiences. Women feed the children and provide for their needs. The main interaction between fathers and children is indirect, via the input of cash from the male migrants to the household from which the children benefit.

The mapping exercise illustrated that men and women have different priorities. This is linked to many factors. One factor that came out strongly was that the different priorities held by various respondents are influenced by their role in the community. The role of some groupings of men in Loskop are in debate and poorly defined. The PR was able to move away from viewing men as one homogeneous collection of people. There were three categories of men identified: the migrants; employed men staying in Loskop; and unemployed men staying in Loskop. The role of the migrants and the locally employed men were clearly defined as income earners, but the role of the unemployed men were in debate.

The unemployed male does not contribute to the family's income, or assist with any other domestic activity. Thus, he draws resources from the homestead without actually contributing to it. The impression from the women was that the men have no work with which to engage themselves, so they sit around idle and drink. The daily time-line of people in Loskop³, as held in the appendix, shows women's attitudes to what men do in the community: "look for beer, some men work in Johannesburg, Durban, or commute to Estcourt - men do nothing for women".

An explanation for why the men focused on the roads and the river was linked to the fact that men seem to do a lot more traveling (and commuting) than the women. The women are tied to the community by their domestic commitments, while the men are able to move in a larger geographic area. The men do less walking than the women however, and it is more common for a man to take a taxi (in their daily activities) than a women. For instance, women felt that distance was never as big an issue as time and they often travel long distances to fetch water and wood by foot. This could be influenced by the fact that men commute along the taxi routes, while the route to the mountains, as taken by women, (where water and wood are available) is more accessible on foot.

The extent to which women need to gather wood was not discussed at this point. However, there was some indication that wood as a fuel was used when money was in short supply. Particularly given the fact that women had little control over to when

³ On the 28 February 1996, a PR exercise was held in Loskop with people who had been electrified between June 1995 and December 1995. These findings are derived from the daily time-line as derived from 13 female participants.

they received remittances. This decision was entirely controlled by the male migrant. Thus, in terms of survival strategies, it was perceived as a unreliable source of income.

The men of the community take responsibility for maintaining the roads and the pathways. For example, while undertaking household surveys, the PR facilitators found evidence of road maintenance. Long grass was cut and placed along the ditches in the road. This is to provide traction for the car tires. A passerby remarked that it was necessary for the community to place the grass in the ditches and muddy pool along the roads, as without it the taxi owners refuse to enter this main section of the community.

Another factor that could explain why men were so specific about the road and railway layout (as shown in their map) would be linked to the exposure men have to maintaining the roads and the possibility that some of the men were employed laying the railway track. The railway track is an important issue in the community as it forms the boarder between the two major political groupings in the community. The ANC⁴ dominates the area over the railway line, while the area next to the mountain is IFP⁵. The railway service is not used very much by the community (and although not discussed, it is probably because of the taxis, which although more expensive are safer than the trains which are often the target of violence). The railway line through Loskop is predominately used for the transport of commercial goods manufactured in the factories beyond the area. The Bata Shoe factory is a significant landmark as it is also a dividing point, like the railway, between the IFP and ANC dominated areas.

Another illustration of men's and women's different priorities was the different scales at which the maps were drawn. The area covered by the women and the men differed, which could be linked to the spheres of activity in which they move. The women remain focused predominately within the community, traveling to Estcourt perhaps once or twice a month (for supplies as their commitments to the homestead tie them down), while the men move more frequently away from the area, and in a wider area.

The migrants from the area work as far afield as the Northern Province, Gauteng and Durban. The men who are daily commuters work in the local factories, Estcourt, Mooi River and even Newcastle. The men who were not employed also appeared to have a larger, more frequent movement area than the women. Many go to Estcourt frequently, to "look for work". There was some indication that this was no their sincere reasons for the outing. As with the men's visits to the tribal court, there was a substantial social component. Although, as one man stated, "affairs of the community are discussed" at the tribal court.

The women do not have time to spend on traveling far distances to socialize. The church was identified as one of the key area where women get together to socialize. The church was located within the community.

⁴ The location of the 11 march PR exercise was in the ANC area. It is inappropriate to include people from the IFP in this exercise.

⁵ The location of the 28 February 1996 PR exercise was in the IFP area. It was not possible to include people from the ANC in this exercise.

The women and the men had different definitions of where the borders of the community were. The women appeared to include areas that the men excluded. The areas included by women add people of opposing political persuasions.

There are some nearby factories which provide a substantial amount of local employment. The largest two are Bata Shoes and National Braiding, which makes shoes laces. There does not seem to be a gender imbalance with regards to who is employed here and these firms which provided many households with a cash based income.

An interesting event happened in the workshop which illustrate the interplay of customs in the African culture that also influenced life in Loskop. Before the workshop, a group of women went to find chairs for the facilitators, as they were the guests and it was felt they ought to have chairs. However, the two facilitators declined to use them as it would be more interactive if they sat on the same level as the community participants. The women who fetched the chairs also declined to use the chairs, giving them up to two men. Upon questioning this, a women said it was not because they were men but because they were older. There seems to be a certain amount of equity between the men and women of Loskop. The women in the research exercise were quite cheeky towards the men, and some were even told the men that they had forgotten to put some detail on their map.

At a later stage, the men actually put labels on their map, where there were originally just dots indicating that a structure or facility was located. Initially, the male participants said that the names would be a waste but added them at a later stage after some interaction with the women. The women seemed surprised at the accuracy of the men's map and did not expect the map to be so technical. The women appeared surprised that the men produced such a fine map, even though it took them longer to complete. The women neither openly praised, nor criticised the men's map. The men said that the women's map was all right.

The men and the women referred to many of the same facilities within the community by different names. For example the Malume Tuck shop was called by its commercial name by the women, while the men referred to it by the surname of the owner. This could indicate that the men interact on a different level in the community. The participants said that a spaza-store is usually "owned" by a male spouse, even though his wife takes care of providing stock and staffing the store. The men appeared to be more closely tied to the men at the store, particularly at a social level. The women on the other hand used the store for a functional purpose of obtaining consumer goods for the household consumption.

Another case where different names were given to the same facilities occurred with the high school. The men were responsible for naming the high school and on their map referred to it by its formal name. The women on the other hand used the shortened name (or slang name). This would be expected given the fact that the women arrange many of their activities around the school. For example, the time of meals is linked to the school day. Furthermore, after school the children would discuss their day with their mothers, and again the slang name would be used. The men would usually not be around when children come home from school (midday).

EDRC Case Study Two: the Post-Electrification of Loskop

There was one facility on the map which was identified that was irregular. The women drawing at the time put down the Gouton and Welders, which seems like a very inaccessible facility to the community. The participants pointed out that the women, who drew this facility on the map, was related to the welder, thus it was only an important landmark to her.

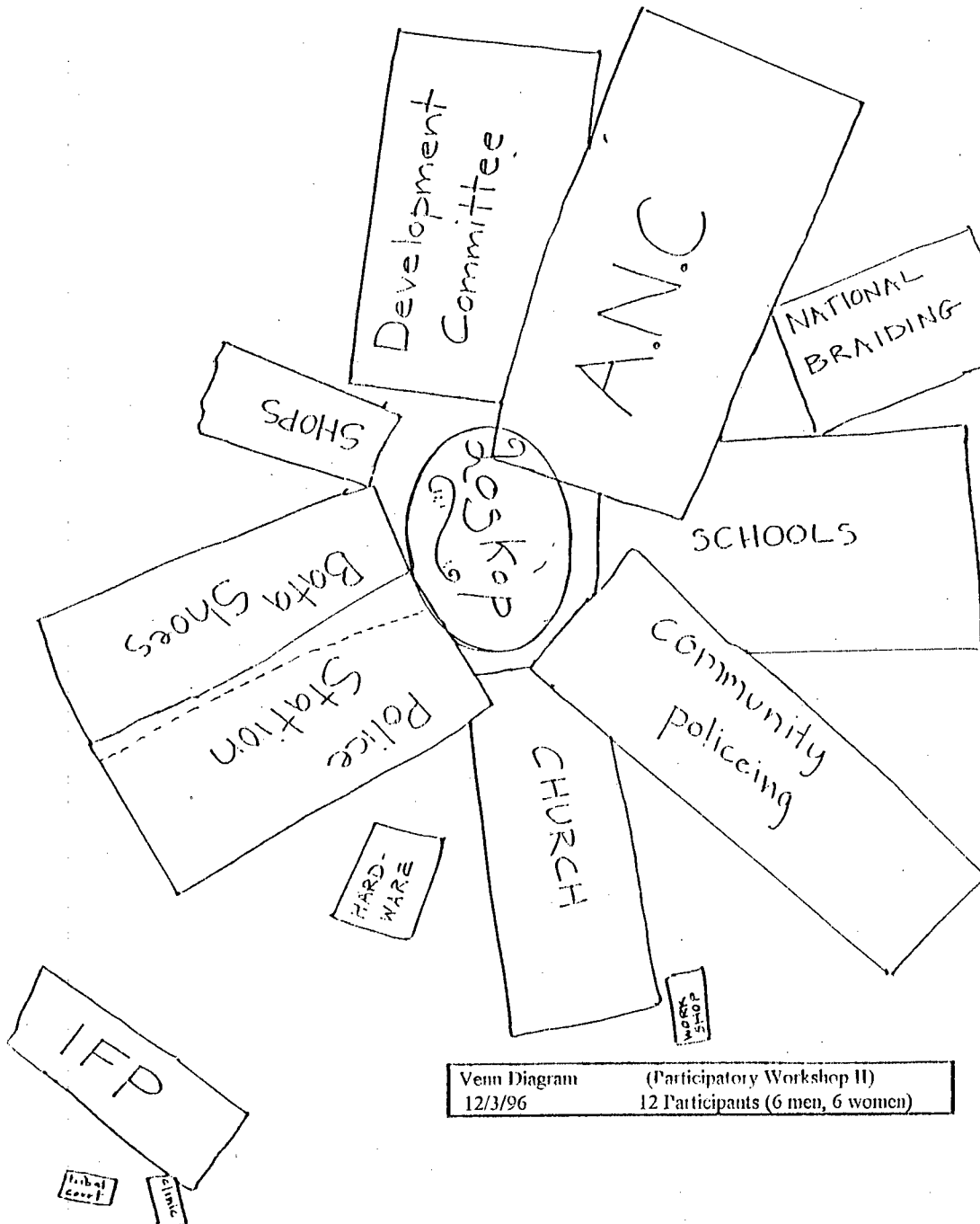
The police station, although not part of this section of the community, was drawn in the women's map. It was identified as important as the community could now "sleep peacefully" under the police presence.

There was one item identified on the men's map that was not identified on the women's. This was the bottle store/tavern. Many men seem to go there even if they do not drink. It was identified as a social meeting place at which to talk, particularly due to the absence of a community hall. On both maps there were facilities that were absent, such as the recreation fields, sports fields and health facilities.

COMMUNITY STRUCTURES AND SERVICES

VENN DIAGRAM

The tool for this activity was the Venn Diagram. In constructing a Venn Diagram, the participants are asked to list all the community structures and services in the area. Then for each one, the community are asked to cut out a rectangle of cardboard to represent the amount of significance it holds in the community. These rectangles, of different sizes, are then placed on a paper which has the name of the community in the centre to represent the closest point to the community. Both during and after the arranging of these rectangles on the cardboard, the community were prompted to explain why they chose the locations they did. Refer to the Venn Diagram below.



FINDINGS

The ANC was referred to as the "mother body" of most community institutions. For instance, the development committee and the community policing was initiated by ANC members. For this reason, these two cards are the second largest cards and flank the ANC card on the Venn Diagram.

The church is not as big as the ANC, community policing and development committee, although it is significant as it is placed adjacent to it. The reason given for this was that everything in the community starts with a prayer. Within the community, the various church ministries prayed for peace. The church is also significant for the social service that it provides, such as the funerals and weddings that occur through the church. The women admitted that they go to the church to gossip as it is their social center.

The hardware store is on a small cardboard, placed away from the core of the community. The participants felt that the hardware store should be distanced from the community of Loskop as it is so expensive and people prefer to buy their hardware goods in town.

The police station is important to the community, although it is not as important as community policing. It overlaps the Bata Shoe Factory although it is in reality, geographically separate. The explanation given for this was that the police give protection to people from the area at the end of the week and the end of the month when they return home with their salaries. Furthermore, the police make it possible for ANC people to work at the Bata Shoe factory (which is reached by going through the IFP area). Without the police escort, the ANC living in the community would be targeted on their way to work.

The church was strategically placed between the community policing card and the state police station. The reason given for this was that police were physically located outside of the community across the road. The community always went to the church to pray before they met with the police. The church was also located opposite to the ANC and the development committee, as both were perceived as being close to the community's core. However, the police and the community policing were not sincerely trusting of each other. They appeared to work together in order to attain the same goals, rather than because they like each other.

The shops are not located close to the core of the community, rather they are located closer to Bata Shoe Factory. Again this is not indicative of the geographic reality. The reason is that people who are paid at the Bata Shoe factory always go to the shops to buy groceries with their newly earned money.

The school is large and overlaps with the ANC. This was explained by the fact that the school is the most important thing in the area and without going to school a person cannot be an effective ANC leader.

The IFP is located far from the community, with its writing facing outwards or away. It was interesting that at first, a little block of paper was cut, and then a PR participant decided to cut a larger block. The reason for this was that they said although they

would like to think the IFP was small and insignificant, it does have a certain amount of support in the vicinity.

The clinic is also placed very far away from the community core as the clinic is merely a hollow shell without medicine or staff. Adjacent to the clinic (both in reality and on the Venn Diagram) is the tribal court. The tribal court is also viewed as being insignificant and ineffectual. The community said that they do not use the tribal court as they are very much against the chief in the area.

ELECTRIFICATION PROCESS AND CONSULTATION

The first introduction to electricity in the community occurred in 1986, when a Mrs K, an employee of Eskom who lived in the Moyni area of Loskop, approached the community. She was sent by Eskom to market electrification to business owners, particularly, and other private homesteads. In 1987, few private homes were electrified as the cost was quite exorbitant. Mr Mhlobo, the owner of the motel, was the first business and homestead to be electrified. He was required to pay a large deposit and received a bill at the end of every month. Later in 1987, a few other households in the community had electricity installed in their homes. The grid was extended from the motel to their homes. The cost of this services was R1 100. However, it was not a widely accessible service and only the relatively well off could afford the service.

According to the participants, in 1990, Eskom again approached the area with offers of a card electrification system. The community held a community meeting at which it was decided to electrify the area and use the card system. The reason for the acceptance was that community residents looked on the lives of those people with electricity as being easier. Another factor influencing the decision was that people thought having electricity was a sign of wealth. Initially, when electricity was installed it was considered a symbol of status.

After this meeting, Eskom used “responsible” people in the community to distribute application forms to the community. Each household head in the community filled in a form of intent or application, which they returned to the community representatives. A few months later, Eskom invited a second community meeting at which the logistics of the actual electrification were discussed. The community were informed that each household would be required to pay R30 for the electricity card distribution box.

Those people, in phase one of the electrification programme, were each given a receipt that indicated they were to be electrified. Each person had to individually take their receipt to the Eskom office in Estcourt to pay the R30 installation fee and to obtain a combination of yellow numbers to mark their homes for electrification. These numbers are very noticeable in Loskop, and provide a good count of the number of dwelling units in the area. Prior to Eskom’s involvement in the area, there was no administrative framework by which to identify a person with their home - as there are no street names or numbers.

In 1993, the first houses in the community were electrified in Phase One of the electrification of Loskop. Eskom works in a systematic manner electrifying area by area, and at present, there are still Eskom teams installing areas of Loskop. An Eskom employee in the area said that a reason for the process taking so long is the violence which delays operations and the fact that people have at times shot at their vehicles and staff.

In terms of electricity information, the participants said that they did not get any from Eskom as a whole grouping. Rather they were told individually by the person installing the distribution box at their home. They were also given pamphlets, and only in some cases, verbal guidance on how the electric card meter box works.

The community did not have any complaints about the consultation process, although some people were concerned that they were never really told very much about electricity. There were complaints about faulty meter boxes. Some meter boxes consumed electricity very much faster than others. The Eskom consultants did come to the community and replace these boxes at no cost to the individual consumer.

Some people within the community also found ways to make their cards "last longer". They used a method of propping the trip switch in an upwards (on) position which meant that even if the card was empty, an electric current was received. Eskom discovered that the community were using these methods and started to do spot-site inspections. One participant in the PR was caught using the "safety-pin" method and was fined R750 for this. Her distribution box was only reinstalled once she had paid the fine. Everyone in the PR laughed about this.

On a more serious note, people did feel that it worked against the community as Eskom became suspicious of the community as a whole, and is now wary of helping people who have problems. This worked to the detriment of people who are really having problems with their meter boxes, as Eskom has the moral high ground. The community are now wary of asking for help from Eskom, even when the technical or maintenance problem is their responsibility.

The community were given the choice between the credit (post paid) electric system and the card (pre paid) system. The community chose the card system as they felt it was easier to control. The objections raised to the credit system were that those people who had them found that Eskom did not read the meters on a regular basis. Rather, they work on a system of calculated estimates. Given the violent history in Eskom, many people with the credit systems did not have their meters read for many months.

The participants felt that Eskom did good follow-up in the community after they installed the meter boxes. Eskom was quick to correct technical mistakes and has a high profile in the area. The woman who got fined for using a safety pin in her meter box said that the reason she got caught by Eskom was that they were checking her homestead's distribution box as part of their standard follow-up process.

The participants were satisfied that the installation of the distribution box and the location thereof in the homestead had been their decision. No one had experienced any problems with the Eskom employees who were installing the box. There was no damage to personal property, nor any other parts of the homestead. People described Eskom's conduct as smooth, professional and efficient. Individual homesteads were given a choice as to whether they wanted electricity or not - this was not the decision of Eskom. This consultation greatly improved people's perceptions of Eskom.

DAILY TIME-LINE

This activity was facilitated by Faith Hlongwa, and occurred with only the women participants. The women were given a large sheet of blank paper on which they were told to indicate all the things they do during a normal day. This was indicated in both words and with pictures, on occasion.

DAILY-TIME LINE FINDINGS

06h00 - 07h00 The household wakes up and washes. Thereafter, tea is made using a two plate electric stove with a pot. Other households use electric kettles.

07h30 - 09h30 The women clean the house and listen to the radio as it makes their chores seem fun and they seem easier as they go faster. The radio was electric, as the women feel it is cheaper than the battery operated radio. The respondents do not own or use electric vacuum cleaners and floor polishers.

10h00 - 11h00 The washing of clothing usually occurs between this time. The women use OMO-micro washing powder in conjunction with hand power. They felt it was an absolute luxury to have an electric washing machine. It was felt that an electric washing machine does not really wash clothes properly. The main reason for not using electricity in this activity was much broader than the fact that the households did not own washing machines, but the lack of other supporting infrastructure, such as the piped water.

11h05 - 12h00 The preparation of lunch is done at this time. An electric stove is used with two pots for cooking. Normally, over a week, a variety of dishes are prepared to eat. However, three criteria are used for deciding the dish: firstly, the type of existing groceries in the household; secondly, the meal must be light; and thirdly, the dish should be quick to prepare. For instance, a vegetable curry; phutu; bread and tea.

13h00 - 16h00 Different activities occur between this time. Some people do sewing and knitting either for the household or as a means of income generation. Others do gardening, although agriculture is not very popular in Loskop due to the hard, infertile clay soil. It is mostly the women who do agriculture in the area.

16h05 - 17h30 The preparations for the evening meal are undertaken, as the day becomes cooler. The meal is similar to lunch, although it is a more substantial meal.

18h00 - 19h00 The household as a unit has supper in the early evening, usually prepared by the same women who takes responsibility for all other household activities.

19h05 - 20h00 This time is allocated to watching television. There appeared to be wide television ownership and all the respondents claimed to own televisions.

20h00 - 06h00 The household goes to bed, after some preliminary washing preparations.

It is interesting to note that this does not differ significantly from the daily time-line drawn by women in the first participatory research exercise, as opposed to this the second participatory research exercise. Although from the appliance matrix, there seemed to be a greater variety and substitution of fuels in this community (which had only been electrified for 3-6 months), as opposed to the community that was electrified for some time (2-3 years).

DAILY TIME-LINE ANALYSIS

The time line⁶ presented in the previous section outlined the main activities which women undertook during a ordinary working day. Their main activities focus on the domestic activities of the household, such as cooking and cleaning. There is time for recreation in the afternoon and in the late evening, after supper, to watch television for instance. Although there was no mention of who cleaned up and washed the dishes in the evening after supper, it is probably the mother or the children. The afternoon is spent doing sewing and knitting.

Women often get together and talk while they sew and knit. These activities are social and self-actualising as the women are given time in which to be creative. However, this is not always the case. Many women do not have a choice over what they sew. It is presumed that they do a substantial amount of repair work on the household's clothing, in order to make them last longer. In the workshop, many women wore locally made dresses. This was indication that there were also women who sew at home in the afternoons to make clothes as an income generating activity.

There were some appliances identified as being key to the women's life: the two plate electric stove; the radio; and to some extent the television. The appliance that was not mentioned was the electric lighting system which was used extensively (shown in the household interviews). The ambient lighting was useful as the evening could be used for doing other activities, if required. The ownership of a narrow range appliances meant that energy services become more limited. For example, in the past the indoor open fire would provide heat for cooking, space heating and lighting. Now, with electricity, three separate appliances are required: a light, an electric stove and a heater.

The time line does not portray what the other people in the household are doing, but these were inferred by the participants. The fact that women only undertake the housework at 09h00, is a result of them waiting for the children to go to school in the morning. The women take full responsibility for preparing the children for school and doing the breakfast meal. The children's labour is used in the afternoon to help with certain chores, which is most probably why the women are able to take a bit of a break.

At this point, the women were not asked to predict how their lives had changed upon receiving electricity. From a previous participatory research exercise⁷ held in Loskop, it was

⁶ On the 11 March 1996, a PR exercise was held in Loskop with people who had been electrified between 1993 and 1994.

⁷ On the 28 February 1996, a PR exercise was held in Loskop with people who had been electrified between June 1995 and December 1995.

found that the process of switching to electricity was a gradual process by which other fuels are substituted for electricity as the required appliances are made available and the cash to buy electric cards are reallocated towards electricity. Many of these houses still used wood fires for cooking, while televisions and radios operated off electricity. In this participatory research exercise⁸ the participants appeared to be more reliant on electricity as a source of fuel.

FUEL-APPLIANCE MATRIX

WOOD

During summer, wood is mainly only used by households in Loskop when there is a traditional function, such as slaughtering a cow or goat. However, in winter wood is used more widely as it is a cheap source of fuel as much more is required for their is an additional activity: space heating. Wood, in winter, is used in the stove for space heating, as well as cooking. The cost of wood is R300 for a tractor load. If people want wood, they have to go individually to the farmers who will deliver it. Many of the women said they also collect wood in the forests situated in the mountains a few kilometers away.

The main advantage of wood, as identified by the participants, was that it had a powerful heat and it was perceived as being cheaper than electricity. The disadvantage of wood was that it was very smoky, which was an eye and nose irritant. Furthermore, the participants felt that wood was not safe to use.

DUNG AND MIELIE COBS

Dung is used as an effective fuel to heat the household. It is collected in the fields at no cost, except for time. People like it as it is a strong heat source, and is evaluated as being as effective as coal. The only disadvantage is that dung smells worse. No one in this part of the community uses mielie cobs for fuel.

PARAFFIN

The participants claimed that paraffin was only used to cook with when there is a power failure, as it is the most expensive fuel with which to cook. However, it appeared that the respondents were giving their "idealised" fuel use patterns, rather than those which took account of their economic circumstances. This seemed to be influenced by the fact that the respondents did not want to admit they used other fuels (besides electricity) as linked to the status of electrification. This may well have influenced the participants readiness to admit they true extent of their paraffin usage. For cooking, the households used a pressure paraffin stove (particularly for the evening meal). The price of paraffin ranges between R1,60 per liter and R1,85 per liter. Paraffin was more expensive at the local stores in Loskop, such as the tuck-shops, spaza's, and tavern than in Estcourt.

⁸ On the 11 March 1996, a PR exercise was held in Loskop with people who had been electrified between 1993 and 1994.

The community preferred paraffin to wood as it was a much quicker source of heat. Paraffin was disliked as it has a bad odour, the smoke was an eye irritant and it was not clean as it generated black soot which dirties the interior of the homestead. The other use for paraffin was as the base ingredient for floor polish, when mixed with melted candles. This polish, once prepared, is applied by hand to the floor. The participants found it a very effective polish substitute and viewed it as cheaper than those supplied by the stores.

GAS

Gas, similar to paraffin, is used for cooking when there is a power failure. The community viewed gas, following paraffin, as the second most expensive fuel with which to cook. Gas is only available in Estcourt, at a price of R15 to refill a 7 kg gas cylinder. The advantages of gas are that it is a fast and clean source of fuel. The disadvantages of gas are that it is not safe, particularly for children, and can explode easily. Furthermore, there is the fear that the gas cylinder does not close properly which results in wastage and possible suffocation.

COAL

Coal as a fuel source is used for both cooking and heating, the latter particularly in winter when it is cold. Coal is obtained locally in the community from a supplier opposite the hardware store. The cost of coal is R12 for a 20 litre bucket (or a foot high bag). The advantage of coal is that it burns slowly. The disadvantage of coal is the carbon monoxide fumes. Participants felt that it was unsafe to sleep in their homesteads with a fire burning due to the risk of affixation.

CANDLES

Candles are also only used when there is a power failure. They are used for lighting. A packet of six costs approximately R6, which was sufficient for a months supply. The community dislike using candles as the wax gets on everything and it was difficult to remove.

BATTERIES

Batteries are mainly used for radios and torches. The torches are a necessity as there are no street lights. In both cases the batteries do not last very long.

GENERATORS

The participants said that generators were not widely owned, but some people use them as a back up power supply for when there is a power failure. The other main usage of generators are for a back-up power supply when there are parties, when it is best to plan for possible power failures. Some participants also used a generator when cutting their lawns. People like generators as they provide a current which provides electricity. However, the generators are disliked because of the noise. Generators were bought by the relatively wealthy households before electricity was available to them.

ELECTRICITY

The participants claimed they used electricity for “everything”. It was felt that electricity was the cheapest of all the fuel sources with which to cook. There are many advantages associated with using electricity, not all of them linked to the actual cost of electricity usage, such as status. When electricity was first introduced to Loskop, due to the considerable cost, only those wealthy people in the community could afford the services provided from it. Nowadays, people still like electricity as it makes them feel “rich” which makes them feel good.

Another reason why participants like electricity was for lighting which is quick to access, and without many side effects, such as candle wax; dangers, such as falling asleep while the candle is still alight; or irritants, such as bad odors. The women identified the access to a refrigerator as a major advantage of electricity. Particularly as people can now cook in bulk and store the remainder in the refrigerator.

There were two main disadvantages identified with electricity. Firstly, the supply of electricity is often not reliable as Eskom does not give notice if they are going to work on it. Secondly, the electricity cards are used fairly rapidly when used for certain activities and appliances, such as stoves, kettle and irons. The refrigerator is viewed as the most economical appliance as it does not use a lot of electricity.

SUMMARY OF FUEL MATRIX

The respondents claimed to use electricity for most activities, such as cooking, lighting, refrigeration and audio-visual activities. However, electricity was not the only fuel used. Often, it was used in conjunction with other fuels. For example, paraffin was used to cook certain meals, at certain times of the day. There were some activities for which electricity was not used, such as clothes washing. This was due not only to the lack of the appliance, but the lack of other supporting infrastructure, such as the absence of piped water. The community felt that the washing machines did not provide as an efficient service, in terms of cleaning garments, as did hand-washing. Other fuels sources were still used in the post-electrification community. There was agreement that the ownership of refrigerators was not too wide spread. The women were probed further on the issue of electricity as a fuel for cooking. The women indicated that when time allowed they would use paraffin, however it was not their first choice. They claimed to use wood less than paraffin and electricity.

In terms of informing the decisions over which fuel to use, electricity was chosen because it was the cheapest fuel for cooking, whereas paraffin is viewed as the most expensive fuel followed by gas. These fuels are favored because they are immediate sources of heat for cooking. Thus, besides the costs of fuels, another factor that informs the usage of fuel type, is the rate at which the fuel can be accessed. Again electricity is viewed as the fastest fuel to obtain, while gas and paraffin are the second fastest sources of fuel.

There are other factors too which inform the choice of fuel, including the intrinsic characteristics of the fuel, such as its odor, its cleanliness and its safety. The latter plays a minor role when deciding on the fuel used. The participants were aware of the dangers of all the fuels but seemed prepared to take their chances with these fuels, while applying preventative safety measures.

The ability to obtain the various fuel sources does not seem to be a significant factor in the choice over the type of fuel used. All the fuels seem to be equally accessible in the community. The main activities identified for which fuels are used, are for cooking and lighting. The new activity which was made available from electricity was the storage of foodstuffs through electric refrigeration. However, refrigerators were not widely owned.

Annex 1:

The following was not obtained from the PR exercise, but from an interview held with the school principal of the local High School:

The Mbongeleni High School is located in Loskop and has classes ranging from standard six to ten. The current enrolment is 1 115 pupils and a staff complement of 30 teachers with one principle. An interview was conducted with the school principal on 11 March 1996.

In 1993, Eskom installed two card metering distribution boxes in the High School free of charge. The electrification initiative came from Eskom, and the principle said that the school was better now that it had electricity. However, at present, one distribution box was not working. This was because of violence at the school which resulted in one wing of the school being burnt down. The other distribution box is working and there have not been any problems with it. It is used to provide electricity to the principal's office for lighting. He also has access to a working phone in the office.

Before the other distribution box was broken, the school only used lighting occasionally as the school did not own any other electrical equipment. The principal said that it was highly unlikely that the Department of Training would provide them with over-head projectors, although these will help teachers in the school as the classes are very large and there are no text books. The principal said that if the other distribution box was fixed and money was raised for paying for electric cards, the school could perhaps have night classes. However, no initiative has yet been made by the school to report the broken distribution box to Eskom, nor has thought been given about how to fund raise to afford regular lighting for the school. Upon more reflection, the principle said it was highly unlikely that the teachers would enter the area for night classes due to the political instability in the area (most violent events occur at night). Loskop does not have any street lights. At present most teachers prefer to park their cars at the local motel for security and walk the distance to the school.

The other schools in the community also received distribution boxes free of charge when the electricity infrastructure was provided.

**APPENDIX 3:
FUEL / ACTIVITY MATRICES**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Centre
25 March, 1996**

In Appendix 3, the fuel / appliance matrices from the first and second participatory research workshop are included. These were reduced from A0 charts to A4 sized charts.

- Matrix 1: Activity Matrix (Participatory Research Exercise I)
- Matrix 2: Fuel Matrix (Participatory Research Exercise I)
- Matrix 3: Fuel Matrix (Participatory Research Exercise I)

| QUESTION | ACTIVITY | APPLIANCE USED | COST, QUANTITY OF FUEL WHO GETS/collects THE FUEL | WHERE DO YOU GET THE FUEL FROM AND TIME TO GET IT | DESIRABLE ASPECTS OF FUEL TYPE | UNDESIRABLE ASPECTS OF FUEL TYPE | |
|---|---|-----------------------------|--|---|---|---|--|
| PE OF FUEL | UHLQBO | UHLQBO | UHLQBO | UHLQBO | UHLQBO | UHLQBO | |
| WOOD ZINKUNI | Cooking / Iron / Heat / Furnace / Stoves | Open fire | 5 hrs R150 / month | Umama 2 Week Toy for 17 wood (Heat load) R6 / day | Bought at tractors in community. On load | Safe Clean Healthy | Smoke Dirty (Hot) |
| WOOD / MAKHEZA DUMBILA SOMILE | Fires for Beer | Outside + Inside | Free, collected in veld. (Dumb) Cobs from White farmers (Tree → charcoal) | Umama Izingeni | Farmers deliver the cobs | Smoke } Day Smell } Don't last } Goal heat Cheap | |
| PARAFFIN PITALAFINI | Cooking Heating Polish (floor) Lamps Tractors | ① Mix with water ② Lamps | 25L / R30 | | | Cheap Available | Smoke Poisonous Burns |
| PARAFFIN SITASI | Cooking Fridge Lamps Gas Welder | | 48 kg / R132 (2 months / fridge) R29 / month (10 kg) | | Extract | Quick | Danger |
| PARAFFIN / AMALAHLE | Stove Brazier | | R6 / 25L (19 / week) | Umama | Local | Quick / hot | Smoke Smell Dirt Danger Damage to floor Not strong Burns hands Danger / Dirt |
| PARAFFIN MAKHA NDLELA | Light Polish | | R9 / month | Umama | Extract + Local | Cheap Clean | Heavy Acid burns Explodes Shocks Acid drunk |
| CELL BATTERIES BHETHA LWALISWAYO | TV Hi Fi | | R6 change / 2 weeks R220 new | Izingeni | Buy: Est Change: Extract Local | Cheap | Heavy Acid burns Explodes Shocks Acid drunk |
| CELL BATTERIES BHETHA MCAHLE / AMATHIBH PM 9; PM 10 PP 9, PP 10 | Radio | | Dig 00R - PM 10 R6 COT - 6R each | Izingeni | Extract + Local | Easy to use NO danger saves space makes point | Don't last Easy to steal. |
| CELL GENERATOR ETHILOLI WE GENERATOR | TV Hi fi | | R5L / R10 for 2 days | Izingeni | Local Extract | Provides light Simple to electrical Easy to use | Noisy Maintenance Danger |
| CELL GENERATOR GYESI | Hot plate Iron Fridge heater Fan TV / Radio / Hair dryer | | Iron 1 high 200 / m Cooking + Kettle R100 Lights R10 with Fridge R400 - R400 | Everyone | Extract + Local (Motor) | Secure / Cheap Hot / Fast Clean Available Convenient | Danger Not Reliable (steams) |
| CELL GENERATOR LWALISA | Solar: None | | | | | | |

| | Also good for what | Uses w/ appliance | Cost | like | Dislike |
|-----------------------|--|---------------------------|--|---|--|
| wood | Cook traditional beer when slaughter cow | stove (in winter to heat) | factor load - R300. must call. | heat is power. - save money cheaper than elec | smoke - no safe to use |
| gelic colas / ung. | NO to heat house. collects in fields. | | | strong heat like coal | smell |
| waffin | cook when power failure | pressure paraffin stove | R1.60/E R1.85/E (tavan) tuckshop more expensive than shop. | Mix with candle to make floor polish quick. | smell hurts eyes (smoke). not clean (puts black smoke). |
| gas | * Most expensive to cook with use - when power failure | cook. | R7.4g/R15 | fast clean | no safe as can burst children play with don't close properly |
| coal | * 2nd most expensive from Hardware across road. - in winter when cold. | cook. | R12/20R packet fast bag. | - burns slowly | - carbon monoxide - can't keep in house if sleeping. |
| andles | When power fails | light | packet (k) XR5. | | wax gets everywhere |
| attery | Radio touch. | | | | does not last long |
| enerator | when power failure if party planned, use as backup to cut lawn. | | | helpful + acts like elec. | noise. |
| lect. | everything | | | - like a rich cost. person feel good. go for light | - do not give notice if going to work with it go fast if use stove, kettle, etc |
| * cheapest | elec | | | - can cook bulk + store in fridge | |

**APPENDIX 4:
DAILY TIME LINE**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Centre
25 March, 1996**

In Appendix 4, the daily time-line as completed by the women participants in the first participatory workshops are included. These were reduced from A0 charts to A4 sized charts. A useful comparison can be made between the time-line discussion held in the second participatory research workshop (contained in appendix 2) and the time-line represented in this appendix.



**APPENDIX 5:
QUANTITATIVE FINDINGS**

**Land and Agriculture Policy Centre
25 March, 1996**

| | |
|-----------------------------|--------------------------------------|
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| Funders: | Energy & Development Research Centre |

THE QUANTITATIVE ANALYSIS

INTRODUCTION

Loskop, some 25 kilometers, outside Estcourt has been described elsewhere as a typical rural community of western KwaZulu-Natal and the Midlands. While the almost non-existent involvement in agriculture, even to the extent of no home gardens, is not in fact typical of the areas closer to the Drakensberg, Loskop seems to resemble its unfortunate neighbors in the Greater Estcourt-Weenen area.

Originally formed by an inkosi and his brother after a move down from the mountains in search of better land in the mid-1800s, it has witnessed increased resettlement. In 1975, many farm labourers evicted from mission land were resettled there without arable land and grazing rights. These resettlements have not been without the usual tragic consequences and violence is endemic in the area. Poverty and little opportunity for escaping it have similarly taken their toll on the area. The vast majority of structures are small and built of traditional materials, which reflects this economic and rural isolation.

The mean income in the area, according to the sample taken for this report, was roughly R900 per month but many households in the sample command a much lower monthly cash income. With an average family size of over seven persons per household, the mean per capita income is about R140 per month. The household survival strategies are further attenuated by a ratio of five non-cash earners to cash earners and a 50% unemployment for the economic area. While typical for the area, these figures are cause for concern and indicate a strong level of economic vulnerability in the area.

The income and dependency results are also sharply differentiated according the gender of the head of household. Female-headed households command a mean income of R200 less per month and a per capita income R40 per month. Their source of income is also much less likely to be formal wages, forcing them to rely on less stable and remunerative activities. As such, they may be expected to be in a more precarious economic position relative to their male-headed counterparts.

Despite the high incidence of poverty in the area, government involvement in developing Loskop has been limited until recently. A few boreholes have been dug and standpipes are now found in some areas of the community. Electrification, the subject of this brief report, was begun in 1990. The program was accelerated in 1992 and 1993. By the end of 1995 virtually the whole area, including Loskop Extension, was electrified.

This report attempts to provide a basic description of the impact of electrification on daily life in the area. In December 1995, a sample of 30 households was taken from areas which had been electrified for at least two years. One-half of the sample was electrified in 1993, one-third in 1992 and the rest before 1992.

Table 1: Year of Connection

| Year | Percentage |
|------|------------|
| 1990 | 6.5% |
| 1991 | 9.7% |
| 1992 | 32.3% |
| 1993 | 51.6% |

Despite limited budgets, the cost of electricity as a energy seems affordable in the area commanding only a 5.5% budget share, and characterized as such by nearly 90% of the households sampled. Nonetheless the cost of appliances seems to limit its usage. Many households, even two or three years after the advent of electricity, still report using other fuels frequently in activities such as cooking, heating, and ironing. Only media power, lighting, and refrigeration seem to be dominated by electricity, perhaps because non-electrical substitutes are either poor or extremely costly e.g. gas refrigeration or battery-powered televisions.

The relatively high incidence of refrigeration, at nearly 50% of the sample, does indicate an ability by some of the population to finance large capital expenditures on household items. However, such expenditure would seem to be out of reach of the poorest third or so of the population.

It was also found that appliance purchasing is unlikely to take place locally due to cost and availability issues. As such, it seems the Eskom system of supplying local agents with appliance packages is either not in place or not functioning well at present. This is one area in which a positive impact could be made by that agency and this report recommends that measures be taken to correct this situation as soon as is feasible. It is understood that violence in the area may make it difficult for the agency to maintain a visible effective presence in the short term.

It was difficult to discern from the short section on business in the survey to what extent electrification had affected such opportunities. Five respondents had been able to start selling food products, however, and others have or are planning to equip workshops with electric tools. The time saved in household maintenance and reproduction through the introduction of time-saving electric appliances and the concomitant reduction in time spent procuring other fuels may also have allowed for increased time being devoted to income generating activities.

Many people felt that their expectations about electricity had been met and the money and time saving properties were duly lauded. Still, many people also mentioned the appliance and other affordability issues as a complaint about poor service and frequent breaks. Whether the latter referred to general breaks in power in the area or those specific to the home due to faulty wiring and boards or an insufficient supply of power was not clear. In any case, this report recommends that this issue be taken up by Eskom as the number of people making such complaint is not insignificant and may suggest some large supply problems.

The remainder of the report is devoted a description of the data from which these conclusions were drawn, and where appropriate, brief analyses of the information it provides.

DATA

The data collected for the survey was collected through a random sample in the section of Loskop called Mqedandaba. Two field researchers from Data Research Africa, Bheki Mbatha and Mhlezi Sibiya, undertook the surveys between 2 February to 6 February 1996.

In undertaking the survey, the respondents walked around the suburb on foot choosing homesteads at random. In the event of no one being at home, their neighbouring homestead was selected. The field researchers approached approximately every seventh house until the area was completely sampled. In total 30 questionnaires were undertaken, each taking approximately 30 - 45 minutes to fill out. The completed questionnaires were validated, coded and captured by Avinash Deonarian.

There were a number of factors which impacted on the data collected. The season would have a bearing, as would the timing of the survey. In all probability the income figures are inflated because of the timing of the survey near the holiday season and the return of the migrants. Clothing expenditure was probably also affected by the timing of the survey.

RESPONDENT AND HOUSEHOLD INFORMATION

This section briefly describes the respondent and the major demographic characteristics of the household.

When possible, a potential decision maker within the household was interviewed. Usually such people will be female heads of household (fhh), male heads of household (mhh), and their spouses. In this sample, 74% of the respondents fell into one of these categories.

Table 3: Household Status of Respondent

| | Status |
|----------------------|--------|
| Household Head (M) | 16.0% |
| Household Head (F) | 29.0% |
| Spouse | 29.0% |
| Household Member (M) | 6.5% |
| Household Member (F) | 19.4% |
| Sample Size | 31 |

Most of the respondents were female. Interviews were conducted during the day and thus members of the household less likely to be engaged in formal wage work were more likely to be available.

Table 2: Gender of Respondent

| | Gender of Respondent |
|--------|----------------------|
| Male | 29.0% |
| Female | 71.0% |
| Survey | 31 |

The mean age of respondents was 39 and 74.2% of respondents were under the age of 44.

Table 3: Age of Respondent

| | Age | Cumulative |
|-------------|-------|------------|
| 18-24 | 12.9% | 12.9% |
| 25-29 | 9.7% | 22.6% |
| 30-34 | 3.2% | 25.8% |
| 35-39 | 19.4% | 45.2% |
| 40-44 | 29.0% | 74.2% |
| 45-49 | 9.7% | 83.9% |
| 50-56 | 16.1% | 100% |
| sample mean | 39 | |

Surprisingly, 45.2% of households are *de jure* female-headed in the area. *De jure* in this case refers to the named decision maker versus *de facto*, the actual decision maker. While *de facto* female headedness is common due to widespread male migrancy, *de jure* female headedness is usually found in only a third or so of rural KwaZulu-Natal households. The high level of violence in the area may contribute to an increased incidence of widowhood but this is not a wholly sufficient explanation.

Table 4: Gender of Household Head

| | Gender |
|-------------|--------|
| Male | 54.8% |
| Female | 45.2% |
| sample size | 31 |

The average household size in the sample was 7.32 which has been found by other studies in this area of the region but is nonetheless rather large. There were no significant differences between male and female headed households in this or any of the other demographic characteristics.

The table below indicates the average number of household members in each profile: scholars; homemakers; retirees; unemployed; farm employed; informal sector participant; and formal wage earner. The most numerous profile, as usual was that of scholars. There are 3.3 children, or scholars, on average per household.

The next largest category was the unemployed at 1.2 per household. This is 51% of the economically active population in the sample (excluding housewives). This suggests low economic opportunities in the area.

As expected, there was one homemaker reported per household. There were also 0.4 retirees per household. As is discussed below nearly all of the retired do not receive a pension. The non-cash earning categories are then scholars, homemakers, retirees, and the unemployed. In terms of income generators, there are 0.5 informal wage earners, and 0.7 formal wage earners on average per household. Bearing out the above observation with respect to limited agricultural involvement in the area, there were no agricultural workers listed in the households sampled.

Using the demographic profile, the mean ratio of non-cash earners to cash earners in the sample was a high 5.4. Thus only 15.6% of household members are able to contribute cash to the household economy on average. This figure is probably inflated by the rather extreme assumption that no persons in the "non-cash earning" are economically active. A few retirees do receive pensions, homemakers may undertake sewing or other home-based activities, the unemployed or scholars on holiday may pick up casual work, etc. Certainly, members in all categories are likely to contribute in non-cash ways to household survival and reproduction. Nonetheless, even if deflated, the figure for the area would still likely suggest a high dependency ratio.

Table 5: Household Composition -- Means

| Member | Mean Number Per Household |
|-----------------------|---------------------------|
| scholars | 3.3 |
| retirees | .4 |
| homemakers | 1 |
| unemployed | 1.2 |
| agricultural workers | 0 |
| informal wage earners | .5 |
| formal wage earners | .7 |

PHYSICAL STRUCTURES AND ELECTRIFICATION

This short section deals with the relationship of households to their homesteads, in particular, whether the home is owned or not, the physical composition of the home, and the electrification layout.

All but one of the 31 respondents reported owning their home. The one renter pays R20 per month. The high rate of ownership and the nominal rental payment indicate well-identified tenure rights and obligation in the area at least with respect to residences.

The materials used in the construction of the homestead can indicate a variety of things. Linkages to urban areas, socio-economic position, and electrification possibilities may all be reflected. In Loskop, the vast majority of dwellings (77.4%) were reported to be mud rondavels. There were no statistically significant differences between female and male headed households with an overall 16.1% of structures being concrete block and 6.5%, a combination of the two. Given the limited agricultural involvement in the area and the relative proximity of Estcourt, this probably indicates more about the precarious economic position rather than an attachment to tradition induced by a remote rural existence. Certainly, communities to the west of this area are far more isolated.

Table 6: Type of Dwelling

| | Number of Households | Percentage |
|----------------------|----------------------|------------|
| Concrete Block | 5 | 16.1% |
| Mud Rondavel | 24 | 77.4% |
| Combination of Above | 2 | 6.5% |
| sample size | 31 | 100% |

The economic position of the community is also evident by the number of structures and rooms in buildings in the homestead. 77.4% have 2-3 structures. This number is perhaps somewhat lower than average for rural areas, indicating neither relative prosperity nor destitution. Interestingly male headed households (mhh) had an average of 2.76 structures, while female headed households had an average of 3.35 structures. The overall mean was three.

Table 7: Number of Structures

| | Percentage | Cumulative |
|-------------------------|------------|------------|
| 2 structures | 38.7% | 38.7% |
| 3 structures | 38.7% | 77.4% |
| 4 structures | 12.9% | 90.3% |
| 5-7 structures | 9.7% | 100% |
| | Means | |
| mean (all hh) | 3.03 | NA |
| mean (male headed hh) | 2.76 | NA |
| mean (female headed hh) | 3.35 | NA |
| sample size | 31 | |

Over a third (38.7%) of the households had only one or two rooms in the main electrified dwelling. Just under one half (48.7%) had three or less and all but four of the respondents reported five or fewer rooms. Again, these figures tend towards the lower side of the median for rural areas.

Table 8: Number of Rooms in Main Electrified Dwelling

| | Percentage | Cumulative |
|------|------------|------------|
| 1 | 12.9% | 12.9% |
| 2 | 25.8% | 38.7% |
| 3 | 9.7% | 48.4% |
| 4 | 22.6% | 71.0% |
| 5 | 12.9% | 83.9% |
| 6 | 9.7% | 93.5% |
| 7 | 6.5% | 100% |
| mean | 3.5 | NA |

The extensive use of mud in construction and the low number of rooms involved affects the electrification possibilities. Rain damage, wiring danger, and structural impermanence in traditional structures usually limits the wiring possibilities considerably. Roughly 42% of the houses currently have complete wiring¹. The remainder have only the ready board installed. All unwired homesteads however, are planned to wired by their owners. Whether this is feasible is not clear.

Table 9: Type of Connection and Plans to Wire

| Type of Connection | Percentage | Plan to Wire (if Ready Board) |
|--------------------|------------|----------------------------------|
| Complete Wiring | 41.9% | NA |
| Ready Board | 58.1% | 100% (of subsample) |

¹ This only refers to the wiring in the main electrified dwelling, which was specified as the dwelling unit where the ready board was installed.

INCOME AND EXPENDITURE: AFFORDABILITY OF ELECTRICITY

This section examines the amount and type of monthly income available to the households in the sample. It also includes a description of expenditure to supplement the income information and to provide insight into affordability issues.

Income data is notoriously unreliable and amounts reported should be accepted with caution, particularly for non-formal types of income. More discussion of the accuracy of income versus expenditure data is discussed below in the section detailing the latter.

AMOUNT OF INCOME

Total income, formed by summing across income sources for each household, has a mean of R898.71 but varies widely. Only half of the sample (54.8%) reports earning in excess of R600 per month and while two-thirds report earning more than R400 per month. The income reported undoubtedly underestimates important non-cash payments in kind like food and fuel and is likely in general to underestimate informal sector cash generation, yet it is still likely that the number of households below the poverty line is somewhere in this one-third to one-half region, particularly at an average household size of over seven persons. In fact, the mean income per capita is only R137.55. This suggests again a high vulnerability for many households in the area to economic shocks. 58.1% of the households reported being able to save each month, the remaining 40% apparently only meeting their survival needs each month.

Another important variation is the difference in incomes between male and female headed households. The former receive an average of R995.29 per month while the latter receive R200 less (R781.43). The greater vulnerability of female-headed households is borne out by the income per capita figures as well: R156.85 per month for male headed households but only R114.12 for female-headed ones. The variation in source of income according to gender discussed below probably accounts for these differences.

The number of households which save is actually higher for female headed households at 64.3% versus 52.9% for male headed households. There is no indication in the demographic profile information that this would be a function of differing demographic characteristics and hence demands on income. Such behavior differentiation could be driven by the lower and more variable nature of women's income e.g. less reliance on formal wages, which causes women to save to smooth consumption. Of course, simple differences in tastes and attitudes towards consumption across gender lines may also play a role.

SOURCE OF INCOME

Gaining access to the formal economy for persons in rural areas can often be difficult due to human, physical, financial, and information capital constraints. Some households will have little or no access. As such, formal wage earnings vary widely across

households. Over a third of this sample (38.7%) report such earnings to be less than R100 per month (most in fact reported no formal earnings at all). The earnings range then begins again at R400 per month with most of the remaining sample earning less than R1 000 per month. Some 29% of the sample, however, earned in excess of that amount. Because the rate of remuneration is much higher than the other alternatives in most cases, formal wages constituted 51.2% of total income on average per household despite much less than full participation in this sector.

There was a significant difference between male and female headed households in formal wage earnings, probably due to differing abilities to overcome the human and other capital constraints involved in such activity noted above. The mean share of total income from formal sources was 60.6% for male headed households while it was only 39.9% for female headed ones. This probably indicates that both the availability and remuneration of formal wage labor is currently more limited for women than men in the area as the head of household is likely to be the main wage earner.

Of course, while male heads of households may or may not have a spouse to contribute to family maintenance, female heads of household probably do not, so we would expect some difference in the magnitude of formal earnings. In any case female headed households seem to be more vulnerable to economic pressure since formal income is usually less subject to stochastic shocks than other types of income sources and it also seems to be the most remunerative activity in this sample.

Remittances were requested separately from formal wage earnings with only 25.8% of the sample reporting any income from this source. The bulk of those who did, indicate a monthly amount of between R100 to R250. The average percent of total income comprised by remittances was 16.2%. There was a strong gender difference since male headed households indicated a mean income share from remittances of only 5.8% where as the figure for female headed households was a much higher 28.9%. While some of this difference is due simply to the wider set of income sources and their larger magnitude for male headed households which deflates the share of remittances to them, the data still suggest an increased incidence of remittances to female headed households.

It is not clear whether this indicates that female heads of household migrate more often or whether fathers of children in the household or spouses send support but are not considered an integral part of the household unit and thus do not appear in the demographic information provided by the respondent.

The number of households reporting in the migrancy category and the amounts listed in the table below indicate that much of the population depends on the economic base in the greater Estcourt area with limited dependence on the major metropolitan areas relative to much of the rest of rural South Africa. That a significant percentage of the population, 38.7%, reported no formal income and that only one-quarter of the households had wage remittances and then only in small amounts, indicates that many people in the area have fragile economic options.

Only 29% of the sample reported some income from informal sources. The amounts reported varied widely from R40 per month to R800. The full range is listed in the

table below. The mean income share was 21.2%. Business income was similarly reported only by a few and ranged from R100 to R600 per month.

Just three households in the sample received pensions, each at the standard R400-R410 per month. This is in contrast to the report that the mean number of retirees per household which was 0.4. This should have indicated that roughly one-half of the households had a pensioner. Either people retired early and are not yet of pension age, or they have been unable to receive their pension, or this figure is seriously underreported. Any or a combination of these may be true. In any case, the high proportion of retirees without pensions serves to increase rather than decrease the dependency ratio.

There are no statistically significant differences in either pensions, business income, or informal earnings according the gender of the head of household. This is due at least in part to the limited number of observations in each category. It is not clear what a larger sample would indicate, if anything.

Table 10: Income Sources (% of the sample in given range)

| Range (rand) | Formal | Informal | Remittances | Pensions | Business | Total |
|------------------------|--------|----------|-------------|----------|----------|----------|
| 0-100 | 38.7% | 77.4% | 74.2% | 91.3% | 80.6% | 6.5% |
| 101-250 | 0.0% | 9.7% | 19.4% | 0.0% | 9.7% | 9.7% |
| 251-400 | 3.2% | 3.2% | 3.2% | 0.0% | 6.4% | 6.5% |
| 401-600 | 13.0% | 3.2% | 3.2% | 9.7% | 3.2% | 9.7% |
| 601-800 | 9.7% | 6.4% | 0.0% | 0.0% | 0.0% | 12.9% |
| 801-1000 | 6.4% | 0.0% | 0.0% | 0.0% | 0.0% | 12.9% |
| 1001-1500 | 22.6% | 0.0% | 0.0% | 0.0% | 0.0% | 29.0% |
| 1500+ | 6.4% | 0.0% | 0.0% | 0.0% | 0.0% | 12.9% |
| mean | 618.17 | 100 | 78.1 | 39 | 62.9 | 898.71 |
| (male hh) | | | | | | (995.29) |
| (female hh) | | | | | | (781.43) |
| mean % of total income | 51.2% | 21.2% | 16.2% | 3.0% | 8.4% | 100% |
| mean % (male hh) | 60.6% | 22.1% | 5.8% | 3.5% | 8.0% | 100% |
| mean % (fem hh) | 39.9% | 20.0% | 28.9% | 2.4% | 8.8% | 100% |

Table 11: Percentage of HH which Save Each Month

| | Percentage |
|-----------------------|------------|
| Male HH (save) | 52.9% |
| Female HH (save) | 64.3% |
| All Households (save) | 58.1% |

EXPENDITURE

Expenditure is likely to be a more reliable reflector of ability to consume than income due the unreliability of income statistics. Often expenditure reported will exceed the monthly income reported. This can be due to poor recall but also to “consumption smoothing” practices where people draw out of savings to maintain a particular consumption level.

By the same token, irregular bursts of income may also not be reflected in consumption as people save the amount over the preferred consumption level for times when income is lower. For instance, if someone receives more than they expected one month but anticipates a drop in income the next, they may only spend the average of the two. This

is a further reason why expenditure may provide more insight into consumption possibilities for households.

In this sample, expenditure in fact exceeded income for 38.7% of the households overall. Some 57% of female headed households reported an expenditure level exceeding their income while only 24% of male headed households did so. Given the savings figures above, we can probably conclude that the higher reliance on less easily quantified and recalled informal income sources by the former contributes to some of this difference although greater vulnerability probably does as well.

Despite this income-expenditure discrepancy, average expenditure was over R200 less than income at R669.39 (R684.43 for female headed households and R657 for male headed households). It should be remembered however, that several costs and benefits accruing to the household are not recorded here such as the implicit rental value of the housing, the value and consumption of home produced goods, and importantly, household labor. Only cash transactions appear.

Non-Energy Expenditure

Some of the several expenditure categories queried are reported in the table below. Several categories such as furniture received few or no responses and have been omitted. Purchases of consumer durables tend to be hard to capture using a monthly recall as they are often intermittent and large expenditures.

Food accounts for the largest cash outlay by households in the area. Mean expenditure was R223.10 with most households falling in the R100-R300 range. This of course does not consider home-produced food but as agricultural activity is severely limited in the area, this may not be an issue. In all probability the figure is inflated because of the timing of the survey near the holiday season and the return of the migrants. Clothing expenditure was probably also affected by the timing of the survey and was the next largest expenditure category with a mean cost of R133.90 per month. Roughly half the sample reported monthly clothing expenditure in the R100-R300 range.

School uniforms may also have been being purchased which would further inflate the clothing figures. Schooling expenditure itself ranged from R40-R200 in general with a mean expenditure of R86.50. This was the only other large expenditure category. Transport expenditure was R51 per month with a range of roughly R0-R100 per month.

Less than a third of the sample indicated any monthly expenditure on health, accounts, telephone, or stokvels. The means in these cases are thus not very informative although in the case the stokvels, a R40-60 contribution seems to be somewhat standard.

Table 12: Household Non-Energy Expenditure (% of sample in range)

| Range (R) | Food | Health | Transport | Schooling | Clothing | Accounts | Stokvel | Telephone |
|-----------|---------|--------|-----------|-----------|----------|----------|---------|-----------|
| 0-19 | 0.0% | 71% | 32.2% | 6.4% | 25.8% | 61.3% | 64.5% | 90.3% |
| 20-39 | 3.2% | 6.4% | 16.1% | 9.7% | 0.0% | 6.4% | 6.4% | 6.4% |
| 40-59 | 3.2% | 22.6% | 19.4% | 12.9% | 0.0% | 9.7% | 19.4% | 0.0% |
| 60-79 | 0.0% | 0.0% | 6.4% | 29% | 3.2% | 12.9% | 3.2% | 0.0% |
| 80-99 | 0.0% | 0.0% | 12.9% | 12.9% | 6.4% | 3.2% | 0.0% | 0.0% |
| 100-149 | 6.4% | 0.0% | 6.4% | 12.9% | 25.8% | 3.2% | 0.0% | 0.0% |
| 150-199 | 29.0% | 0.0% | 3.2% | 12.9% | 6.4% | 0.0% | 6.4% | 0.0% |
| 200-249 | 25.8% | 0.0% | 0.0% | 0.0% | 16.1% | 0.0% | 0.0% | 3.2% |
| 250-299 | 6.4% | 0.0% | 0.0% | 0.0% | 6.4% | 0.0% | 0.0% | 0.0% |
| 300-399 | 9.7% | 0.0% | 3.2% | 3.2% | 3.2% | 3.2% | 0.0% | 0.0% |
| 400+ | 6.4% | 0.0% | 0.0% | 0.0% | 6.4% | 0.0% | 0.0% | 0.0% |
| Mean | R223.10 | R14.20 | R51.00 | R86.5 | R133.9 | R31.9 | R23.2 | R10.3 |

Energy Expenditure

Energy expenditure was treated separately in the survey and is further broken down here into electrical and non-electrical sources to probe into affordability issues. With respect to electricity, respondents were asked to give an average monthly expenditure and then to list the actual amount paid each month for the last three months as a cross-check. The amounts for the average and per month expenditure are remarkably similar.

The mean monthly expenditure on electricity is R31.90 with no significant differences between male and female headed households. Roughly a third (32.3%) of the sample spent R10 per month, another 22.6% spent R20-39. Another third (29%) spent R40-59 and 16.1% spent R60-79 per month. The mean budget share was 5.5% indicating it is a relatively small consumer of household resources given the discussion of income and expenditure above. Not surprisingly then, 87.1% of the sample reported finding electricity “affordable.”

Respondents were also queried about the regularity of electricity card purchases. Half of the sample (54.8%) purchased their cards once a month and another 29% twice per month. Only a few people reported buying cards more or less frequently than that. The full range of responses is reported in the table below. Also, very few people reported keeping spare cards on hand. This most likely due to the relative ease of purchase in the area (from the numerous spaza shops and the motel) but also potentially due to cash flow problems for more resource constrained households.

Table 13: Household Electricity Expenditure (% of sample in range)

| Range | Electricity | 1st Month (electricity) | 2nd Month (electricity) | 3rd Month (electricity) |
|-------------------|-------------|-------------------------|-------------------------|-------------------------|
| 0-19 | 32.3% | 25.8% | 19.4% | 29.0% |
| 20-39 | 22.6% | 35.5% | 38.7% | 29.0% |
| 40-59 | 29.0% | 29.0% | 32.3% | 29.0% |
| 60-79 | 16.1% | 9.7% | 6.4% | 12.9% |
| 80-99 | 0.0% | 0.0% | 3.2% | 0.0% |
| 100+ | 0.0% | 0.0% | 0.0% | 0.0% |
| Mean | R31.90 | R29.00 | R32.90 | R31.60 |
| Mean (mhh) | R33.53 | R29.29 | R32.85 | R30.71 |
| Mean (fhh) | R30.00 | R28.83 | R32.94 | R32.35 |
| Mean Budget share | 5.5% | NA | NA | NA |

Table 14: Affordability of Electricity

| Perceptions | Percentage |
|-------------------------------------|------------|
| Affordable | 87.1% |
| Not Affordable | 12.9% |
| Too Expensive | 12.9% |
| Affordable if Fewer Appliances Used | 3.2% |

Table 15: Regularity of Card Purchase and Keeping of Spare Cards

| Regularity | Percentage |
|------------------------|------------|
| Once in 2 Months | 3.2% |
| Once per Month | 54.8% |
| Twice per Month | 29.0% |
| Three Times per Month | 9.7% |
| Four Times per Month | 3.2% |
| Keep Spare Cards (Yes) | 9.7% |

Interestingly, mean expenditure on other fuels is higher than mean expenditure on electricity, indicating that other fuels are still widely used in the community. More discussion on the nature of fuel use and reasons for it follow below.

Mean monthly expenditure on non-electricity sources of energy is R48.90. Overall this is a mean budget share of roughly 10%, giving a total fuel budget share of about 15%. Non-electricity energy expenditure is R44.93 for male headed households and R52.12 for female headed households perhaps indicating greater availability of electrical appliances for the former. There is no obvious bias in fuel types according to gender of the household head. Both spend most of their fuel allowance on wood (R15.80) and paraffin (R22.40). Roughly R6 is spent on candles each month. Very few people reported using gas and those who did spent between R20 and R60 a month.

Table 16: Other Fuel Expenditure

| Range | Other Fuels | Wood | Gas | Paraffin | Candles |
|-------------------|-------------|--------|-------|----------|---------|
| 0-19 | 19.4% | 58.1% | 87.1% | 41.9% | 93.5% |
| 20-39 | 25.8% | 25.8% | 9.7% | 41.9% | 6.5% |
| 40-59 | 22.6% | 9.7% | 3.2% | 12.9% | 0.0% |
| 60-79 | 12.9% | 6.5% | 0.0% | 3.2% | 0.0% |
| 80-99 | 12.9% | 0.0% | 0.0% | 0.0% | 0.0% |
| 100+ | 6.4% | 0.0% | 0.0% | 0.0% | 0.0% |
| Mean | R48.90 | R15.80 | R4.80 | R22.40 | R5.80 |
| Mean (mhh) | R44.93 | R14.71 | R4.50 | R24.50 | R2.70 |
| Mean (fhh) | R52.12 | R16.76 | R5.06 | R20.64 | R2.70 |
| Mean Budget share | 5.5% | NA | NA | NA | NA |

probably includes generators + batteries

5? → higher?

IR is the total of the others, how come the distribution is so different.

FUEL USE

Most households do not rely solely on electricity as their energy source. This section discusses fuel use according to activity as well as appliance type.

Cooking probably accounts for much of the expenditure on other fuel sources. Only 29% of the households reported using electricity as a source of energy for cooking “frequently” versus 71% for paraffin. Further, 58% of the household “never” use electricity for cooking. This may be due to the cost of replacing paraffin stoves with electric hot plates. Electric ovens would presumably be out of budget range for most households based on the income and expenditure figures given above.

Approximately 41% of the sample also reported using wood “sometimes” and 12.9% use it “frequently”. Gas and charcoal were only used by a few households, probably reflecting appliance purchases made before the advent of electricity in the area as both fuels are expensive relative to their substitutes, such as wood and paraffin.

Table 17: Cooking - Frequency of Fuel Use According to Type

| Frequency | Wood | Gas | Paraffin | Coal | Electricity |
|-------------|-------|-------|----------|-------|-------------|
| Frequently | 12.9% | 6.5% | 71.0% | 0.0% | 29.0% |
| Sometimes | 41.9% | 6.5% | 19.4% | 9.7% | 3.2% |
| Very Seldom | 16.1% | 3.2% | 0.0% | 3.2% | 9.7% |
| Never | 29.0% | 83.9% | 9.7% | 87.1% | 58.1% |

The figures for water heating are much the same as those for cooking, probably because some of the same appliances or processes are used. However, the use of kettles nudges the frequency of electricity use up to 32.3% and reduces paraffin “frequent” use to 54.8%. The figures for wood do not change significantly, perhaps due to the same quantity issues found in cooking i.e. the need to heat large amounts of water at one time. Again the use of gas and charcoal is negligible.

Table 18: Water Heating² - Frequency of Fuel Use According to Type

| Frequency | Wood | Gas | Paraffin | Coal | Electricity |
|-------------|-------|-------|----------|-------|-------------|
| Frequently | 9.7% | 3.2% | 54.8% | 6.5% | 32.3% |
| Sometimes | 38.7% | 6.5% | 25.8% | 0.0% | 9.7% |
| Very Seldom | 12.9% | 3.2% | 0.0% | 0.0% | 6.5% |
| Never | 38.7% | 87.1% | 19.4% | 93.5% | 51.5% |

In non-electrified areas, wood coal and paraffin are the most common sources of heat for irons. In this area, 61% of households are now using electric irons frequently while only 6.5% households still use wood coal irons. Roughly 42% of households however still use paraffin irons frequently, indicating that change to electrical appliances is not complete by any means. Gas, coal, and car batteries were also listed as fuel sources by a few although the latter may have been misrecorded.

² The questionnaire did not identify the purpose for which water was heated. Thus, no distinction could be made between heating water for bathing, washing, cooking or beverages.

Table 19: Ironing - Frequency of Fuel Use According to Type

| Frequency | Wood | Gas | Paraffin | Coal | Car Battery | Electricity |
|-------------|-------|-------|----------|-------|-------------|-------------|
| Frequently | 6.5% | 3.2% | 41.9% | 3.2% | 3.2% | 61.3% |
| Sometimes | 3.2% | 6.5% | 19.4% | 0.0% | 0.0% | 6.5% |
| Very Seldom | 3.2% | 0.0% | 0.0% | 3.2% | 0.0% | 3.2% |
| Never | 87.1% | 90.3% | 48.7% | 93.6% | 96.8% | 29.0% |

As expected, nearly the entire sample (93.5%) reported using electricity for lighting frequently, the remainder apparently not having the wiring for globes. 42% reported using candles frequently, and another 42% reported using them sometimes. Paraffin was only listed as a fuel source for lighting by one respondent. The wide use of candles may indicate an urge to save on electricity, frequent power outages, or non-electrification of some buildings in the homestead³.

Table 20: Lighting - Frequency of Fuel Use According to Type

| Frequency | Paraffin | Candles | Electricity |
|-------------|----------|---------|-------------|
| Frequently | 0.0% | 41.9% | 93.5% |
| Sometimes | 3.2% | 41.9% | 0.0% |
| Very Seldom | 0.0% | 0.0% | 0.0% |
| Never | 96.8% | 16.2% | 6.5% |

Ambient heating, as a separate activity, seems to be undertaken infrequently with only 12.9% of the households using wood frequently and most households seeming to use nothing at all. This is most probably linked to the time of the study: summer. As noted above heat generated from cooking with wood is probably the main source of heat. Only two respondents use electric heat sources, perhaps due to the cost of such appliances, especially when considered in light of the substitutes.

Table 21: Ambient Heating - Frequency of Fuel Use According to Type

| Frequency | Wood | Paraffin | Coal | Electricity |
|-------------|-------|----------|-------|-------------|
| Frequently | 12.9% | 3.2% | 0.0% | 3.2% |
| Sometimes | 3.2% | 6.5% | 3.2% | 0.0% |
| Very Seldom | 16.1% | 0.0% | 12.9% | 3.2% |
| Never | 67.8% | 90.3% | 83.9% | 93.6% |

Almost half of the sample seems to have some source of refrigeration all of which is powered by electricity. This suggests at least some of the households in the area are able to finance the purchase of the more expensive appliances.

Table 22: Refrigeration - Frequency of Fuel Use According to Type

| Frequency | Electricity |
|-------------|-------------|
| Frequently | 48.4% |
| Sometimes | 0.0% |
| Very Seldom | 0.0% |
| Never | 51.6% |

Media sources i.e. radio/hi-fi's and televisions, are powered by either electricity or batteries. 77.4% of the sample use electricity frequently to power radios or hi-fi's while 19.4% still use pocket batteries. Many old radios cannot be switched to electrical use

³ The questionnaire did not probe for reasons. The author suggests a combination of these reasons is most probable.

which probably explains the continued use of pocket batteries. In contrast, only one respondent reported using a car battery to power a television, the remaining 45% of the sample who own televisions use electricity.

Table 23: Radio/Hi-Fi - Frequency of Fuel Use According to Type

| Frequency | Electricity | Pocket Battery |
|-------------|-------------|----------------|
| Frequently | 77.4% | 19.4% |
| Sometimes | 0.0% | 12.9% |
| Very Seldom | 0.0% | 0.0% |
| Never | 22.6% | 67.7% |

Table 24: Television - Frequency of Fuel Use According to Type

| Frequency | Electricity | Car Battery |
|-------------|-------------|-------------|
| Frequently | 41.9% | 3.2% |
| Sometimes | 0.0% | 0.0% |
| Very Seldom | 3.2% | 0.0% |
| Never | 54.9% | 96.8% |

To check the information on fuel use by activity, respondents were asked to describe the energy source for each of their appliances. Much of what is reported corresponds to the above but some interesting additional information was uncovered. Despite the continued use of other fuel sources for water heating, 45.2% of the sample own a kettle. In addition, 45.1% of the sample has an electric hot plate and 35.5% a paraffin one. It was also established that only a few people have fans, heaters, or stoves with ovens and almost no households own geysers, electric sewing machines, electric frying pans, tumble dryers, washing machines, freezers, toasters, vacuums, workshop tools, air conditioners, lawn mowers, or microwaves.

Table 25: Primary Energy Source By Appliance

| Fuel | Fridge | Kettle | TV | Radio-Hi-Fi | Fan | Heater | Stove w/Oven | Hot Plate | Iron |
|-------------|--------|--------|-------|-------------|-------|--------|--------------|-----------|-------|
| Do Not Own | 51.6% | 54.8% | 48.4% | 9.7% | 93.5% | 77.4% | 93.6% | 19.4% | 35.5% |
| Paraffin | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6.5% | 0.0% | 35.5% | 0.0% |
| Coal | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.2% | 0.0% | 0.0% |
| Batteries | 0.0% | 0.0% | 0.0% | 9.7% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Electricity | 48.4% | 45.2% | 51.6% | 83.6% | 6.5% | 16.1% | 3.2% | 45.1% | 64.5% |

Why do they add up to 100%? surely people can run more than one stove

EXPECTATIONS AND ELECTRICITY

In order to gain insight into what people's perceptions of electricity are and why they continue to use other fuels, some direct questions about its impact on their lives were asked.

On the whole it seems that many people's expectations have been met, but that some problems remain. Roughly one third of the sample felt their expectations about electricity had not been met while the remaining two-thirds felt it had.

Table 26: Provision of Electricity - Meeting Expectations

| Expectation Met | Percentage |
|-----------------|------------|
| Yes | 64.5% |
| No | 35.5% |

Respondents were then asked to describe their main feelings about electricity. From these responses it seems clear that some improvements in delivery could be made. On the positive side 16.1% noted it saves time, 12.9% listed its affordability, 12.9% said it met their needs, and 3.2% said it improves their standard of living. This is actually only 45.1% of the sample, so 19.4% who felt electricity met their expectations nonetheless had a negative main reaction to it.

Problems with electricity included poor service/reliability (22.6%), satisfaction with and acclimation to other energy sources (19.4%), and the affordability issues (12.9%). The service issue may explain the continued widespread use of candles. It is not clear whether area-wide power failures are at fault or whether individual blow-outs occur because of inadequate supply and/or fault equipment.

The relatively small percentage who listed affordability issues is perhaps surprising, particularly since the expense of appliances was listed by only one respondent. One factor could be that non-electrical appliance alternatives are also expensive and thus people do not feel this is a "new" problem introduced by electricity. The almost 50% ownership of refrigerators, as noted above, also suggests though that some of the population can clearly finance larger purchases. The income and expenditure figures described above would still, however, suggest that a large portion of the population must find such purchases difficult.

Table 27: Electricity as a Fuel - Perceptions

| Perceptions | Percentage |
|--|------------|
| Affordable | 12.9% |
| Electrical Appliances too Expensive | 3.2% |
| Cards too Expensive | 6.5% |
| Meets Our Needs | 12.9% |
| Saves Time | 16.1% |
| Improves Standard of Living | 3.2% |
| Poor Service/Unreliable | 22.6% |
| Other Sources of Energy Cheaper | 3.2% |
| Other Sources of Energy Safe and Easy to Use | 19.4% |

People were also asked to enumerate the reasons for continued use of wood. The responses bear out the observations made in the section on fuel use above. 38.7% of

the sample reported the use of big pots as a primary reason to use wood while 22.6% said they needed a “big” fire. Only 9.7% listed the cost of electrical appliances as an issue. Discussion of paraffin may have elicited more insight into why people use other fuels as the two are more direct substitutes, but this information was not gathered. It was interesting to note that none of the respondents identified the price of wood as a factor of continued, or discontinued wood use.

Table 28: Reasons for Continued Use of Wood

| Reasons | Percentage |
|-----------------------------------|------------|
| Do Not Use | 29.1% |
| Use Big Pots | 38.7% |
| Need Big Fire | 22.6% |
| Do Not Have Electrical Appliances | 9.7% |

DECISION MAKING AND FUEL USE

This section briefly describes respondents' perceptions about the decision makers in the household for fuel use. Remembering that in this sample the gender of household head is split evenly, the statistics in the table below indicate that fuel use seems to fall within the sphere of women's, rather than men's, household activities.

Male heads of household make such decisions in no more than 10-20% of either the whole sample or the section of the sample which uses each particular fuel except for those fuels used by almost no one. Other males in the household similarly seem to have limited input. Part of this rather sharp gender differentiation may reflect the absence of male household members from the homestead due to migrancy.

Table 29: Energy Decision Making (% of HH, primary decision maker)

| Fuel Type | Fuel Not Used | Male HH | Female HH | Other Male | Other Female |
|-------------|---------------|---------|-----------|------------|--------------|
| Wood | 35.5% | 3.2% | 22.6% | 6.4% | 32.9% |
| Gas | 83.8% | 3.2% | 0.0% | 3.2% | 9.7% |
| Paraffin | 6.5% | 9.7% | 32.9% | 16.3% | 35.5% |
| Coal | 87.1% | 0.0% | 6.5% | 6.5% | 0.0% |
| Candles | 12.9% | 9.7% | 25.8% | 12.9% | 38.7% |
| Batteries | 61.3% | 3.2% | 9.7% | 6.5% | 38.7% |
| Electricity | 0.0% | 16.2% | 32.3% | 12.9% | 16.2% |

Respondents were also queried as to the identity of electricity card purchasers. Again, male household heads and other males only purchased the card in 29% of the households. Spouses (all female in this case), female heads of household and other female household members purchase the cards for the remaining two-thirds of the sample. Both the general energy decision making results and those for the card purchaser may also reflect differing financial responsibilities in the household according to gender.

Table 30: Identity of Card Purchaser

| Identity | Percentage |
|--------------|------------|
| Male HH | 16.1% |
| Female HH | 25.8% |
| Spouse of HH | 29.0% |
| Other Male | 12.9% |
| Other Female | 16.1% |

APPLIANCE PURCHASE PLANS

This section briefly describe the respondents' perceptions of appliance priorities. Respondents were first asked which appliances, if any, the household planned to buy in the future. About two-fifths to half of the sample reported planning to buy most of the items listed. In the case of refrigerators, televisions, heaters, irons, radio/hi-fi's, and stoves with ovens, at least three-quarters of those currently without such appliances are planning to buy them. In many cases it was 100% of those currently without.

Other notable figures were 41.9% support for geysers, 54.8% support for fans, 48.4% for electric frying pans, 45.2% support for toasters, 35.5% support for freezers and microwaves, 32.3% support for sewing machines and 22.6% support for washing machines and lawn mowers: none of which are currently owned by more than two or three households at present. It is not clear how planning for such purchases would be made. Given the income and expenditure figures above, one would have to assume quite a substantial time frame in most cases. Geysers, refrigerators, freezers, washing machines, tumble dryers, lawn mowers, and some sewing machines would be out of the range of many households without substantial savings efforts and credit opportunities or gifts from migrant spouses and children.

In order to gain insight about priorities among purchases, respondents were asked to rank their three highest purchase priorities. They were specifically instructed that money was not an issue. As such, the answers should reflect their perceived needs more than their actual plans in many cases. Refrigerators and stoves with ovens received the overwhelming majority of first purchase votes at 29% and 35.5% respectively. Since half the sample already owns a refrigerator, this figure reinforces the appliance purchase plan results that refrigerators are highly prized by these households. Stoves with oven also received 45.2% of the second purchase votes as well, almost four times the next highest contender, reinforcing its appliance purchase plan results.

Most of the other appliances only received a few votes with few exceptions. Kettles received 12.9% of the second purchase votes and 16.1% of the third purchase votes. Irons and heaters also received 12.9% each of the third purchase votes. Both are already owned by at least a third to a half of the population. It should be noted that most of the sample already owns a radio/hi-fi and over 80% own hot plates (although many are non-electric) which accounts for the low number of responses here.

Table 31: Appliance Purchase Plans

| Appliance | Planning to Buy | 1st Purchase | 2nd Purchase | 3rd Purchase |
|------------------|-----------------|--------------|--------------|--------------|
| Stove with Oven | 74.20% | 35.50% | 45.20% | 6.50% |
| Fan | 54.80% | - | 9.70% | - |
| Kettle | 51.60% | 3.20% | 12.90% | 16.10% |
| Electric Fry Pan | 48.40% | 3.20% | - | 6.50% |
| Space Heater | 45.20% | - | - | 12.90% |
| Toaster | 45.20% | 3.20% | - | 3.20% |
| Geyser | 41.90% | - | - | 3.20% |
| Refrigerator | 41.90% | 29.00% | 6.50% | 3.20% |
| Television | 41.90% | 3.20% | 9.70% | 9.70% |
| Freezer | 35.50% | - | - | - |
| Microwave | 35.50% | 6.50% | 3.20% | 6.50% |
| Sewing Machine | 32.30% | 3.20% | - | - |
| Iron | 29.00% | 9.70% | 3.20% | 12.90% |
| Washing Machine | 22.60% | - | 3.20% | 6.50% |
| Lawnmower | 22.60% | - | 3.20% | - |
| Tumble Drier | 12.90% | - | - | - |
| Workshop Tools | 6.50% | 3.20% | 3.20% | - |
| Radio/Hi-Fi | 3.20% | - | - | - |
| Egg Beater | 3.20% | - | - | 3.20% |
| Hot Plate | 3.20% | - | - | - |
| Vacuum Cleaner | - | - | - | - |
| Air Conditioner | - | - | - | - |

Respondents were also asked to give their feelings about purchase at local shops in order to gain insight into availability. For large appliances, purchase at some place other than the local shop requires making arrangement for transport. Unfortunately, only one respondent felt “happy” about purchasing appliances locally. Another 12.9% felt “indifferent” and 16.1% reported they would not be keen but would buy there if they had to. Over two-thirds of the sample said they would not buy there at all. One respondent did note that they had no money available to purchase anything.

Table 32: Feelings About Purchase at Local Shops

| Feelings | Percentage |
|---------------------|------------|
| Happy | 3.2% |
| Indifferent | 12.9% |
| Not Keen (will buy) | 16.1% |
| Will Not Buy There | 64.5% |
| No Money Available | 3.2% |

People also gave some reasons as to why they were not happy purchasing locally. 16.1% said the appliances were “too expensive” and another 9.7% said the appliances were “cheaper in town”. The overwhelming response, 51.6% of the sample, was that the appliances they wanted were not available locally. Although Eskom is supposed to have local agents who supply subsidized appliance packages, this does not appear to be the case in the area given the “unavailability” response. Because of transport and other access issues, such local agents could have a positive impact on electricity use were they to be placed in the area.

Table 33: Reasons People Do not Purchase at Local Shop

| Reason | Percentage |
|---------------------------|------------|
| Not Applicable (will buy) | 19.3% |
| Too Expensive | 16.1% |
| Cheaper in Town | 9.7% |
| Appliances not Available | 51.6% |
| Financial Problems | 3.2% |

BUSINESS AND ELECTRIFICATION

The availability of a cheap and easy to use fuel source like electricity could be expected to have a positive impact on business generation in the community. Respondents were asked if they had been able to start any new businesses since the advent of electricity. 16.1% reported they had. 80% of these began to sell ice blocks and cool drinks and 20% began to sell meat from their home.

Workshop tools (now run on electricity) are also owned by one household and were listed in appliance purchase plans by two others, one as the first priority and the other as the second priority. Other income generating activities already in practice before electrification may have similarly benefited. Potentially time-saving aspects of cooking, heating water, ironing, etc. with electricity may have allowed for the shift of freed household labour towards income generating activities as well.

Table 34: Business Generation and Electricity

| Business Started as Result of Electricity | Percentage |
|---|------------|
| Yes | 16.1% |
| No | 83.9% |
| Type of Businesses Started | |
| Selling Ice Blocks and Cool Drinks | 80% |
| Selling Meat from the Home | 20% |

**APPENDIX 6:
LOSKOP THE EFFECT OF ELECTRICITY ON SMALL
BUSINESS**

**Land and Agriculture Policy Centre
8 June 1996**

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Funder: Land and Agricultural Policy Centre

INTERVIEWS WITH FORMAL BUSINESSES IN ESTCOURT

INTRODUCTION

This survey took place in Estcourt, in the midlands of KwaZulu-Natal on Wednesday 28 February 1996. The people that were interviewed are managers and owners of stores that sell appliances. The big furniture chains are "Lewis Stores", "Morkels", "Ellerines", "Town Talk", "Protea", "Savells", "Russels" and "Joshua Doore". The second hand appliance store is "Libra". Because it was a post electrification study, the aim was to estimate the changes that occurred in the appliance market because of electrification. Of the nine respondents, eight were managers of branches of furniture stores and only one was running his own store. This last respondent was dealing with second hand appliances.

CUSTOMER PROFILE

The percentage of race groups in the number of customers varies from store to store. The "Lewis Stores" manager estimated her clientele to be 80% African, 15% white and 5% Asian. "Morkels" gave different figures such as 65%, 5% and 30%. "Ellerines", "Town Talk", "Protea", "Savells" and "Libra" (second hand appliances) deal with between 95% - 100% African customers. The "Joshua Doore" manager believes that his clientele consists of 75% Africans. Finally, "Russels" reported to deal with a 50% African clientele, with 35% Asian and a 15% white.

The accessibility issue in terms of distance did not seem to be a problem for the customers of the appliance stores. It is important to bear in mind that these customers have access to other appliance store markets such as in Ladysmith, Pietermaritzburg, Weenen and Mooi River. The main reason they look elsewhere is the cheaper prices. An interesting argument raised by the manager of "Lewis Stores" is that if you consider the petrol they use to get there, the prices actually become more expensive. On the other hand, some of the appliance stores in Ladysmith deliver goods in Estcourt and the surrounding areas. It also turned out that the majority of the employees in these stores actually come from Estcourt and the surrounding areas. However, the senior positions are kept by people from other areas with more experience and education.

In terms of gender, the same percentage of male and female customers are reported by most of the stores because they decide together what they need. However, "Ellerines" manager said that he prefers to deal with male customers because they are usually the breadwinners and he trusts them more. On the other hand, in "Russels" and "Joshua Doore" females are the vast majority of customers, because they know what is required for their households. When a male customer looks for appliances, he usually returns with his wife to buy the item.

To obtain a general profile of the customers, a mini market survey took place in the food stores of the town. The survey aimed to find out the prices of the cheapest food products that people consume regularly. The results of this mini market survey are presented in Appendix 1.

ECONOMIC STRUCTURE OF THE MARKET

The economic agreements on which appliances are sold, vary. All the branches of the big furniture chains sell by hire purchase. Only the owner of "Libra" (second hand appliances) sells in lay-by.

"Lewis Stores" demand a 15% deposit on the purchase and open an account for up to 24 months. Into this account they add finance charges and interest of 31% if the customer skips the monthly instalments. All the other branches of furniture chains operate in a similar way, with a few differences. The interest rate in "Morkels" is 31% for purchases under R6 000 and 29% for purchases that exceed R6 000. In all the other furniture chain branches except "Lewis Stores", the deposit is 10% of the purchase. Moreover, "Protea" started to finance its customers through First National Bank since January this year.

The lay-by system introduced by "Libra" (second hand appliances) allows an account to be opened in which half the price of the item is demanded as a deposit. This account is interest free, but the customer is not allowed to take the item home until he pays the whole amount. If the customer cannot meet his obligations in time, the store owner is free to sell the item to somebody else without compensating his customer.

"Lewis Stores", "Ellerines", "Town Talk", "Savells" and "Russels" admitted that they negotiate their prices and that there is competition between them in terms of better prices. Also, it depends on the time that an item is kept in the store. The longer they keep items, the more prices decrease. In addition, it is interesting to see that the bulk of sales are done in credit because people in these areas cannot afford to pay in cash which would save them money that they pay for interest.

However, we should bear in mind that the majority of the customers are responsible in terms of paying. If they are not, a number of legal steps exist that the stores take. These include letters and finally a debt collector. Usually this procedure lasts up to six months and if the situation remains the same, they repossess the item. The most strict store is "Protea" because they give only a 30 day notice to their customers. On the other hand "Russels" give their customers a 30 day limit to pay their accounts. "Savells" are flexible with their customers as well, because if they skip their payments the store cancels their accounts and proposes a new one. Only "Libra" is able to use the appliance as long as it is still in the shop.

When the interviewees were asked to list the appliances that their customers prefer to buy, it turned out that there was not a big difference between electrical and non-electrical appliances simply because after the electrification of many communities in the surrounding areas, the appliance stores tend to sell either only electrical appliances - such as "Lewis Stores", "Morkels" and "Joshua Doore" - or multi-purpose appliances (that can be operated with both electricity and other fuels) like "Ellerines" and "Savells". The preferences are listed below:

Non electrical appliances

- Refrigerators (Gas operated)
- Freezers (Gas operated)
- Stoves (Gas operated)

Electrical appliances

- Refrigerators
- Freezers
- Hi-fi sets

COST OF ELECTRICAL\NON-ELECTRICAL APPLIANCES (SEE APPENDIX 3)

The way to operate a non-electrical appliance has to do with alternative fuels. There is a store which sells fuels called "Stabletons". However, it sells only paraffin and gas. The garages in town supply the people with diesel and car batteries. The only appliance store that sells fuels is "Ellerines". They sell gas per 19 kg container at a cost of R60. However, if you do not have a container, the price increases to R210.

COST OF DIFFERENT SIZES OF FUELS (SEE APPENDIX 2)

When asked about the existence of a second hand market the answers varied. "Lewis Stores", "Protea", "Savells", "Russels" and "Joshua Doore" reported that they sell the appliances they repossess to second hand dealers either in Mooi River or Estcourt. They made it clear that they do not sell second hand appliances directly to their customers. "Morkels" manager said that they send the goods they repossess to a clearing centre in Ladysmith and after that to Johannesburg. "Ellerines" and "Town Talk" deal in second hand appliances with the appliances they repossess. "Libra" is a second hand appliance store which buys its goods from auctions. Unfortunately, the owner refused to give more information, which is why the prices of the appliances he sells are not included in Appendix 3.

All the appliance stores in Estcourt deliver goods for their clientele. "Libra" (second hand appliances) delivers for free. "Lewis Stores", "Protea" and "Morkels" charge for deliveries depending on the distance and the amount of sales. "Ellerines" and "Town Talk" charge depending on the amount of sales, while "Russels" charge depending on the distance. "Savells" have a fixed price for deliveries, equalling 8% of the sales. To sum up, "Joshua Doore" have a hired vehicle which negotiates the price for deliveries directly with the customers.

None of the appliance stores in Estcourt repair their non-electrical appliances. They all have contacts with agents, service departments and their suppliers, and send the goods there. However, they try to get appliances that have a year's guarantee. In the heated argument about the future of the non-electrical appliances, almost all the answers were the same. It is common sense that most of the customers are going for electrical appliances because of the rapid electrification of the rural areas. Moreover, electrical appliances are cheaper, more convenient and easier to maintain. This why some of the stores sell either multi-purpose appliances or just electrical ones. Only the manager of "Protea" mentioned that there are still a lot of areas to be electrified, and as long as the process continues, they will keep up selling non-electrical appliances.

All the owners of appliance stores mentioned some changes in their customers' buying decisions because of electricity. People now definitely buy electrical appliances which are more convenient, and the situation in terms of the number of the privileged electrified communities, is changing. However, their customers still try to cover their basic needs rather than buying luxurious appliances, and the list of favourite appliances remains the same. To sum up, the managers and owners of these stores are trying to expand their stock only in electrical appliances. Their suppliers however, face problems meeting their needs because the demand is extensive. As far as the non-electrical appliances are concerned, they wait for special orders and then proceed.

ANNEX 1: PRICES OF FOOD

In this quantitative survey, information about the cheapest prices of the most common food products that people consume was gathered from “Desais” and “Mbatha’s” supermarkets as well as “Mndeni” and “Jackie’s” butcheries.

MEAT

| | | QUANTITY | PRICE |
|----------|---------|----------|---------|
| MNDENI | CHICKEN | 1 KG | R 11.98 |
| | MEAT | 1 KG | R 11.98 |
| JACKIE'S | CHICKEN | 1 KG | R 10.98 |
| | MEAT | 1 KG | R 9.38 |

FOOD: “DESAI'S” SUPERMARKET

| | | QUANTITY | PRICE |
|----------|-------|----------|---------|
| BEANS | | 1 KG | R 5.49 |
| | | 2 KG | R 10.99 |
| SUGAR | | 1 KG | R 3.39 |
| | | 2.5 KG | R 7.70 |
| BREAD | BROWN | LOAF | R 1.90 |
| | WHITE | | R 2.35 |
| SAMP | | 1 KG | R 1.90 |
| | | 2.5 KG | R 5.00 |
| | | 10 KG | R 15.00 |
| OIL | | 500 ML | R 2.60 |
| | | 750 ML | R 3.80 |
| | | 2.5 L | R 13.00 |
| | | 5 L | R 20.00 |
| CABBAGE | | | R 14.00 |
| POTATOES | | 1 KG | R 1.20 |
| | | 1 BAG | R 12.00 |

MBATHA'S SUPERMARKET

| | | QUANTITY | PRICE |
|-------|-------|----------|---------|
| BEANS | | 1 KG | R 5.95 |
| | | 2 KG | R 11.25 |
| SUGAR | | 1 KG | R 3.99 |
| | | 2.5 KG | R 7.89 |
| BREAD | BROWN | LOAF | R 2.10 |
| | WHITE | | R 2.40 |
| SAMP | | 1 KG | R 2.39 |
| | | 2.5 KG | R 6.19 |
| | | 10 KG | R 18.99 |
| OIL | | 500 ML | R 2.95 |
| | | 750 ML | R 3.95 |
| | | 2.5 L | R 12.99 |
| | | 5 L | R 20.95 |

ANNEX 2: PRICES OF DIFFERENT FUELS

In order to understand the way non-electrical appliances operate it is important to know the prices of certain fuels. In Estcourt there is one store which sells fuels, namely "Stabletons". However, it sells only paraffin and gas. People buy diesel and batteries from the garages in town.

"STABLETONS"

| | QUANTITY | PRICE |
|----------|--------------------|----------|
| PARAFFIN | PER LITTER | R 1.55 |
| | PER 20 LITERS | R 27.36 |
| GAS | PER CONTAINER 3 KG | R 11.40 |
| | 9 KG | R 29.00 |
| | 14 KG | R 45.00 |
| | 19 KG | R 61.20 |
| | 48 KG | R 154.31 |

GARAGES

| | QUANTITY | PRICE |
|-------------|------------|--------|
| DIESEL | PER LITTER | R 1.79 |
| CAR BATTERY | | R 200 |

ANNEX 3: COST OF ELECTRICAL\NON ELECTRICAL APPLIANCES

Part of this qualitative survey was to identify the prices of the appliances that people use in their households. The number of non-electrical appliances that people tend to buy is relatively smaller compared to electrical ones. This can be justified by the fact that households deprived of electricity need to cover their basic needs first and then look for luxury. Moreover, most of the appliances operate with electricity. The following prices show the average cost of these appliances on an average size.

NON ELECTRICAL APPLIANCES

| | FRIDGE | FREEZER | TV | HEATER |
|--------------|--------|---------|--------|--------|
| LEWIS STORES | R 3900 | R 2700 | R 2300 | R 400 |
| ELLERINES | R 3500 | R 2800 | R 2200 | R 400 |
| TOWN TALK | R 2600 | R 2800 | R 2200 | R 400 |
| PROTEA | R 2900 | R 3900 | R 2600 | R 600 |
| RUSSELS | R 3600 | R 2300 | R 2300 | R 300 |

ELECTRICAL APPLIANCES

| | FRIDGE | FREEZER | TV | HI-FI | HEATER | IRON | KETTLE |
|--------------|--------|---------|--------|--------|--------|-------|--------|
| LEWIS STORES | R 2100 | R 1400 | R 1900 | R 2600 | R 500 | R 110 | R 80 |
| MORKELS | R 2500 | R 500 | R 2200 | R 3000 | R 200 | R 150 | R 80 |
| ELLERINES | R 2000 | R 2000 | R 1700 | R 2000 | R 250 | R 100 | R 75 |
| TOWN TALK | R 1900 | R 1900 | R 1800 | R 1000 | R 250 | R 120 | R 90 |
| PROTEA | R 2000 | R 2500 | R 2300 | R 1300 | R 90 | R 90 | R 90 |
| SAVELLS | R 2500 | R 3800 | R 2200 | R 1500 | R 100 | R 90 | R 90 |
| RUSSELS | R 1800 | R 1100 | R 1300 | R 800 | R 150 | R 80 | R 40 |
| JOSHUA DOORE | R 1700 | R 1300 | R 1300 | R 1000 | R 95 | R 150 | - |

**APPENDIX 7:
LOSKOP MAPS**

**THE POST-ELECTRIFICATION
OF LOSKOP**

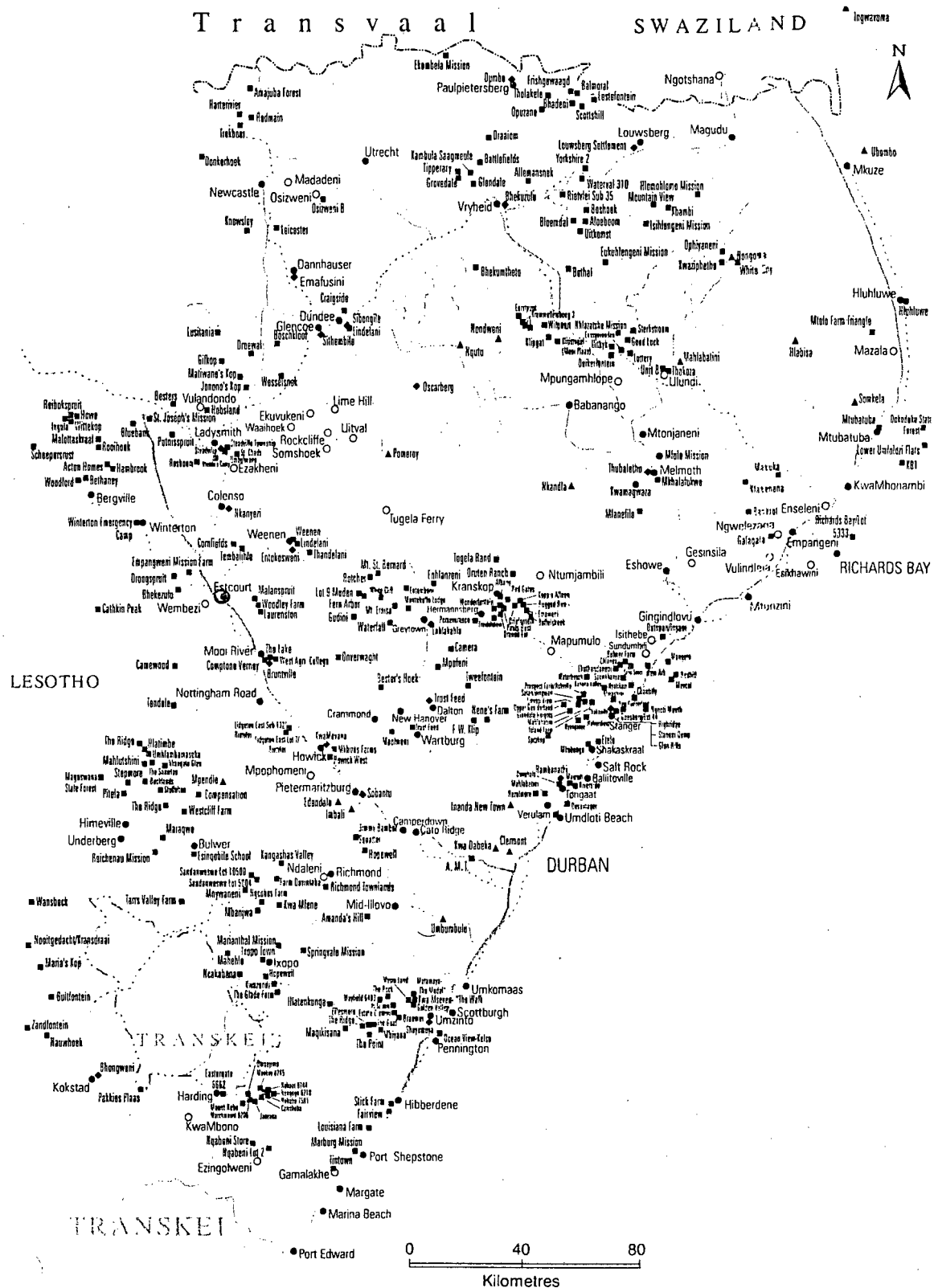
**Land and Agriculture Policy Centre
25 March, 1996**

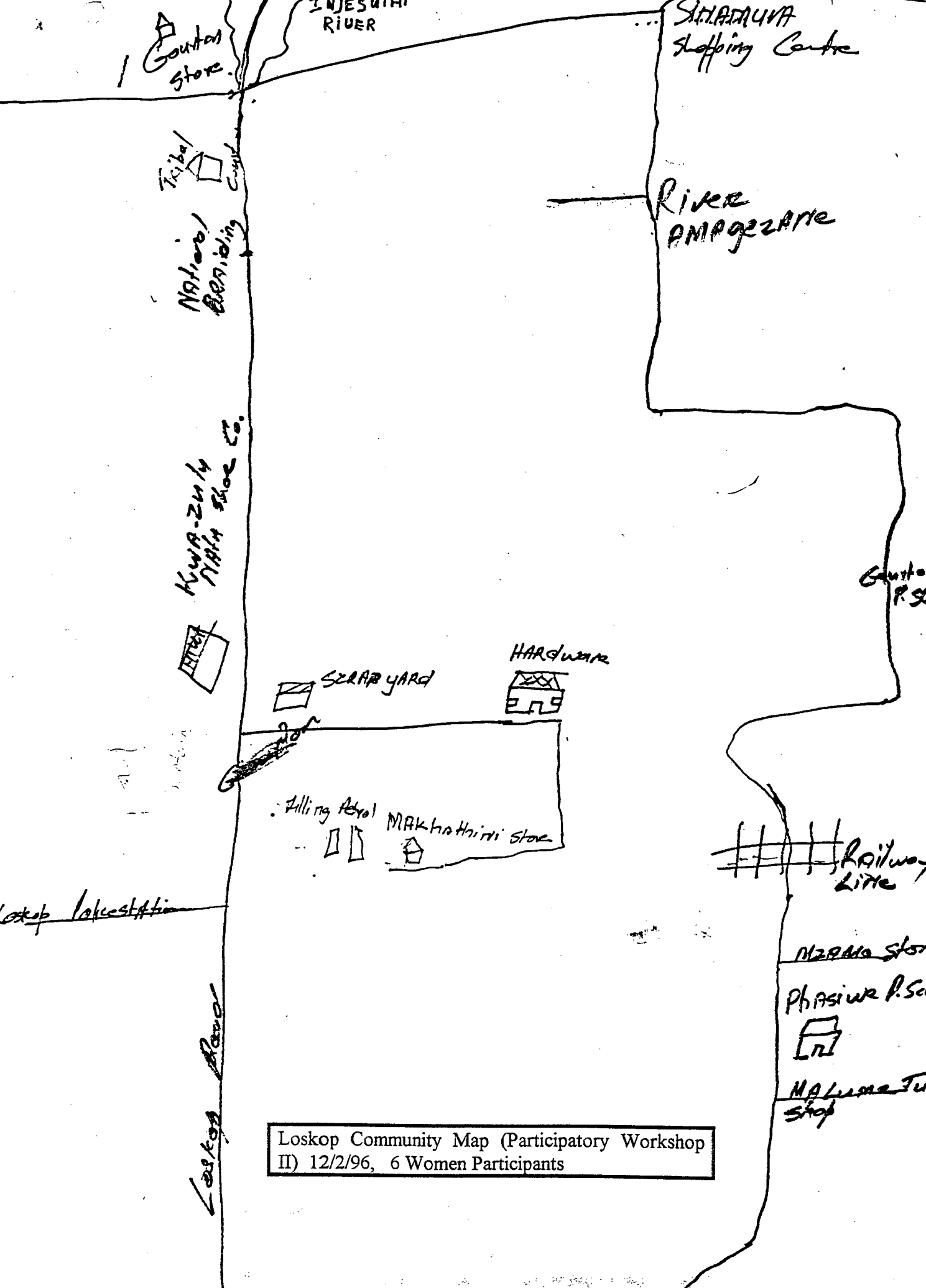
In Appendix 7, the three maps are presented:

- a map showing the regional context of Loskop
- a map drawn by the 6 women who participated in the second participatory research exercise, 12/3/96
- a map drawn by the 6 men who participated in the second participatory research exercise, 12/3/96.

Refer to appendix 2 (page 50) where the two participatory maps are discussed.

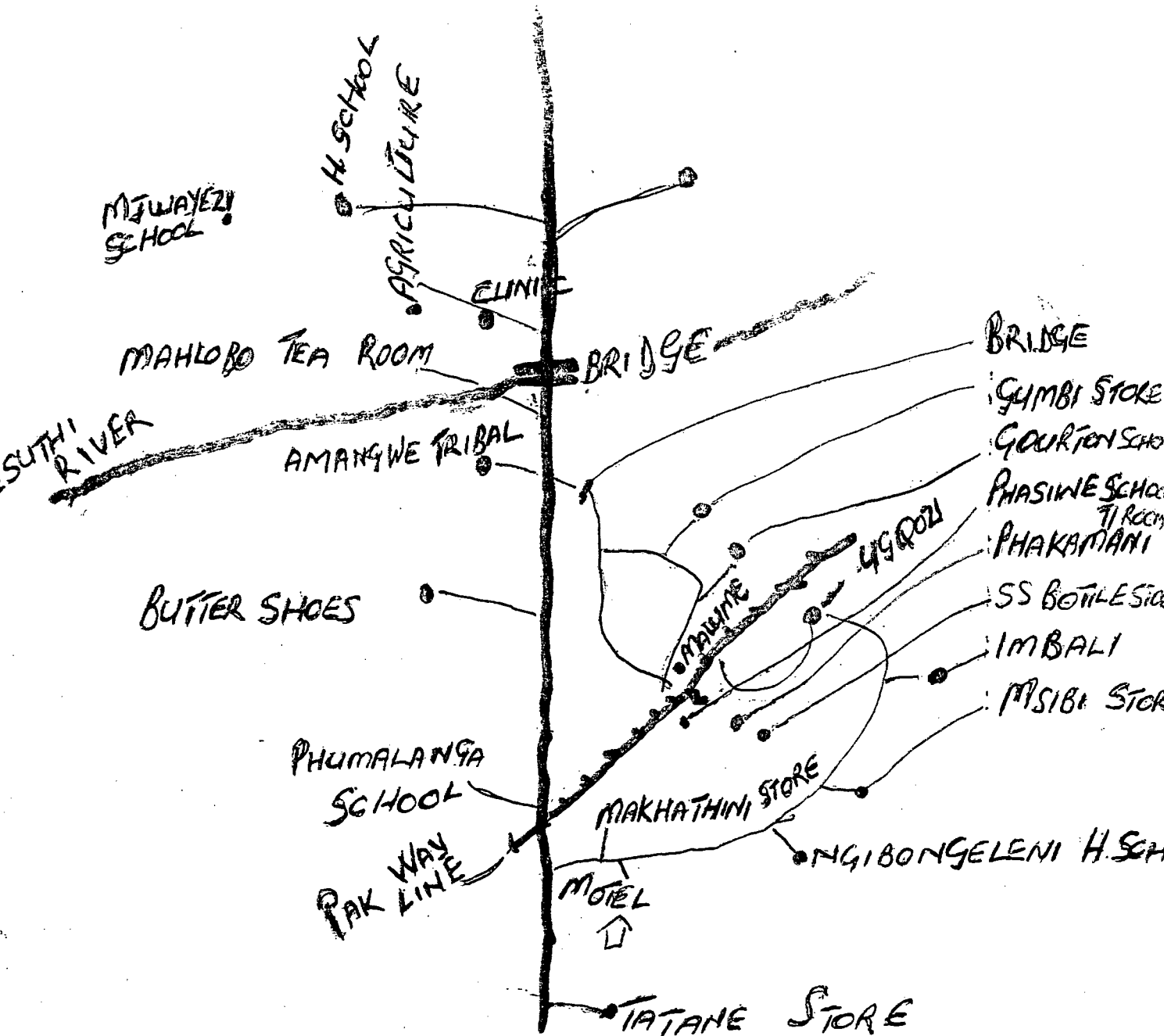
Map of KwaZulu/Natal, showing the regional context of Loskop, 25 kilometres east of Estcourt.





Lestoga Community Map (Participatory Workshop II) 12/2/96, 6 Women Participants

Loskop Community Map (Participatory Workshop II) 12/3/96, 6 Men Participants



**APPENDIX 8 A:
COMMENTARY OF
HOUSEHOLD INTERVIEWS**

THE POST-ELECTRIFICATION OF LOSKOP

**Land and Agriculture Policy Centre
25 March, 1996**

| | |
|-----------------------------|------------------------------------|
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| | Graham Moor |

HOUSEHOLD INTERVIEWS

INTRODUCTION

The records of interview material have been reviewed with the objective of elucidating the energy use practices, problems, needs and opinions of newly electrified users in the specific settlements. Energy use is analysed in the context of household livelihood strategies and lifestyles. The review is also structured to reveal the likely patterns of uptake of various domestic energy services by respondents. The interviews were conducted in Mqudadaba and Msweleni, Loskop, in March 1996 by a team of field researchers employed by the Land and Agriculture Policy Centre.

DESCRIPTION OF THE HOUSEHOLDS

The selected households are all situated in the Loskop area, and are mostly dependent on money income from employment in the formal economy for their livelihood, either in the local factories along the railway line that runs through Loskop as well as in the nearby Estcourt, or on money remittances from migrant workers based mainly in Johannesburg. Although the area is rural, agricultural and livestock subsistence practices are not prevalent amongst the interviewees, nor are home based income practices. One interviewee practices as a sangoma from her home and one interviewee is himself a migrant worker with a household elsewhere.

DEFINING CONCEPTS

DOMESTIC ENERGY SERVICE PACKAGES

This concept describes all the components of an energy service actually rendered in the household for its members. For instance, with cooking it includes the specific appliance and fuel combination, the foodstuffs used, the processes used in cooking the food, the cash, labour and time inputs, the time of activity, the nature of the dish delivered, etc.

In planning their activities for sustaining the household, users manipulate and change the components of the energy service package in response to changing circumstances affecting the household. The products that they (usually the mother) are ultimately able to deliver to the household may vary continuously. The components may also be manipulated in order to deliver a required product in the most economical way.

This can be simply illustrated with water heating, where users interchange fuels, appliances, vessels, processes, etc. according to different circumstances in order to obtain a specific quantity of water, at a specific temperature, at a specific time in the most economical way.

ECONOMISING STRATEGIES

The act of economising features prominently in a situation of poverty and takes into consideration various factors and personal valuations (see section below), including

those that may seem extrinsic to the actual service. Households employ various strategies to economise over a range of household assets.

INTIMATE KNOWLEDGE

An intimate knowledge of household energy packages is held by the persons working with these packages every day. These people plan their activities to improve their survival capacity by manipulating (making choices, switching fuels, employing different resources in the household asset base) the elements of the household energy packages.

Within households, some users have control/authority over manipulating energy packages, making decisions and acting upon them. In other households, certain key decisions, especially around appliance acquisition, are made by the male household head, usually an absentee who has little intimate knowledge of the energy use patterns.

HOUSEHOLDS AND HOUSEHOLD ASSETS

The households were primarily identified by the homestead. The criteria Eskom used to select and identify households for the supply of grid electricity in this project are mainly determined by the physical location of the homestead.

The service is fixed and there seems to be no contractual agreement with specific household members. These members were identified as contributors to the household function or beneficiaries from the household activities. Household economic assets include all human resources, goods and commodities owned, subsistence resources and production as well as cash incomes.

FUNCTIONAL HEAD OF HOUSEHOLD

In most households interviewed, the member who takes responsibility for the functioning of the household is permanently resident - usually a woman and mother. The male income earners are commonly absentee members and their contributions to the livelihood of the family are restricted to cash remittances of variable amounts and reliability.

COMMENTARY ON SOME HOUSEHOLD INTERVIEWS IN MQUDANDABA AND LOSKOP SOUTH

INTRODUCTION

This report reviews the energy use of each household in terms of the degree of electrification. Energy practices are summarised and issues of interest highlighted. Detailed information is contained in the appendix of interview records.

COMMENTARY ON INTERVIEW NO 1, MQUDANDABA

This household of six members is dependent on the income of the mother who does shift work at a local factory. Her daughter does the housekeeping, has her own children and looks after her young brother. The household seems very poor and undertakes no other subsistence activities.

The electrification of the homestead has benefited the household mainly through access to electrical light, which is used fairly consistently. The wiring in the house consists of plugging extension leads to the Electricity Dispenser. Ceiling lights are preferred and the light on the Electricity Dispenser is usually removed. The electrical two-plate stove which is the only electrical appliance the household owns, is stored away and only used when cooking for guests as they do not want the food to taste of the paraffin fumes that infuse food cooked on the paraffin stove.

The respondent expressed very clear preferences for the use of electrical services, but in practice, uses the paraffin stove for all daily domestic purposes.

The income earner buys two prepay cards per month each with a value of R10. These are bought at the month end, but only one is registered on the Dispenser, while the other is put away. One card can last up to three weeks. The splitting of the units on two cards is a measure of restriction to inhibit electricity use. In practice, most of the units are used for lighting as the use of the electrical stove is very limited. The functional household manager, Zandile the interviewee, said that although she knows it is unlikely, she would like to operate the electricity dispenser with coins so that she can regulate daily small expenditures on electricity.

This family, with severe limits on energy expenditure, still perceive cooking using paraffin to be cheaper than cooking using electricity. They express a clear need to be able to measure the rate of electrical unit consumption for the various domestic services especially at very low consumption rates. It seems likely that their inability to do so inhibits their use of electricity for a wider range of services.

COMMENTARY ON INTERVIEW NO 2, MQUDANDABA

This is the homestead of a single man who works at the local factory as a security guard. He supports his wife and children in their homestead in Bergville where he goes on most weekends.

The single roomed house is electrified and he uses electrical lighting and a two-plate stove. There are no other electrical appliances, but there is a paraffin stove and a solid clothes iron.

The respondent rarely does any cooking, but he likes the fact that electricity is quick when he comes home from work. He says he would like to have a refrigerator and an electrical iron, probably because these appliances are most likely to impact on his lifestyle in Mqudandaba - he already has these appliances in his wife's home.

The fact that the respondent intends maintaining this homestead for future income from rental or for his son to use, makes it likely that he will maintain some level of domestic services here. It is however, clear that he invests his capital in the homestead where his wife and children live.

COMMENTARY ON INTERVIEW NO 3, MQUDANDABA

The household is clearly well integrated into the formal economy with both parents employed at a factory in nearby Estcourt to which they commute by public transport on a daily basis. The total income for the household of five members is R3 500 per month. No mention is made of rural subsistence, agricultural or traditional livestock activities.

The homestead has been electrified for nearly three years. All domestic energy services have been electrified. Prior to electrification the household used gas, a relatively expensive commercial fuel, which would have entailed cash expenditure for domestic energy services.

The interview material does not indicate how long the family have been resident in this homestead, nor does it give a history of employment. It is nevertheless reasonable to deduct that the switch to electricity did not entail a dramatic change in the nature of household cash expenditure on domestic energy.

Analysing the sequence of appliance acquisition, it is interesting to note that the interviewee, who works full-time as seamstresses, bought a sewing machine first, which she paid for herself. The most recent acquisition is an overlocker and no information is available on the origin of, or the intended use of the sewing equipment although it currently is used privately for domestic articles only. This machine constitutes quite a large capital outlay for the household.

It is also noteworthy that the cooking appliance initially acquired was a two-plate stove, although the household probably could afford a more sophisticated appliance. This could indicate that cooking is not a high priority for the working mother. Alternatively, it could mean that the customary cooking methods that fitted a single gas plate, could be continued on the electrical hot plate. At present the household plans to buy a four-plate stove with an oven, but only after the acquisition of several functional and entertainment appliances.

The household uses R60 worth of electrical units per month, bought in units of R20 each at the month end, and never have the problem of running out of money for units. The interview material indicates that the interviewee believes the cost of most electrical services are reasonable, with the exception of space heating which is not used in this household.

Energy use for the heating of water is not extensive as the use of water is limited. The interviewee is dependent on water stored in a drum in the kitchen which she gets from her neighbour who has piped water. At most, she heats six kettles for a single application like bathing, at one time.

Water is heated using the electrical kettle rather than the electrical hot plate. According to the interviewee this is because the former it is quick and saves on costs, although she does not know the exact cost of this water heating method. The interviewee is either ignorant of the metering facility showing the rate of unit use, or it is not available

on the installed electricity dispenser. The metering system is in fact inappropriate for measuring unit consumption.

The interviewee received no information or training on the use of electricity before or after the electrification of the settlement. In giving her personal opinions on domestic electricity, the interviewee mentioned time saving, cleanliness and money saving as positive aspects. The electrical lighting is seen positively to be 'bright' and to contribute to personal safety against crime.

The interview report did not elaborate on cooking activities which could indicate that the interviewee did not prioritise cooking and has simplified this activity as she works full-time. Alternatively, the cooking may be mostly done by another household member.

COMMENTARY ON INTERVIEW NO 5, MQUDANDABA

This household is small and of the three members, two are employed on a full-time basis which means that the monetary income is stable and substantial at R3 500 per month. No other subsistence activities are mentioned.

The house is small and incomplete and household activities are regulated by monthly cycles of income and expenditure. The household buys one pre-pay card per month to the value R80.

The access to refrigeration (including a freezer) that electrification has brought for this household, clearly has a beneficial impact on their lifestyle. Because of their relatively remote location, access to shops is limited and the storage of bulk purchases means they do not have to continually make small expensive purchases locally or travel more regularly to distant shops. The impact of refrigeration on the choice of foodstuff and its follow-on effect on cooking procedures and energy use, (which in remote rural areas is often dictated by the availability of subsistence agricultural products or fuels and goods from local stores that can be dry-stored), has not been investigated. It is however, clear that by pre-cooking meals for a few days in advance, the interviewee has changed her cooking patterns.

The household was electrified in 1993 and the interviewee had used electricity in Umlazi where she had lived before. The opinions of the interviewee on electricity use are favourable.

The sequence of electrical appliance purchases could indicate that media (TV and radio) was prioritised over cooking facilities, although the refrigerator-freezer was the second purchase they made. It is important to note that the interviewee previously cooked on a two-plate gas stove and that the main criteria mentioned regarding her cooking was time and speed. These are advantages which she would already have obtained using gas.

The use of appliances other than electrical ones occurs when there is a power failure (which the interviewee said seldom happened) during which time she uses the gas appliances they had had before electrification. She does use a paraffin stove for ironing

as well as for preparing specific foodstuff that require slow cooking (samp, beans and steam bread). The paraffin stove and the solid iron were not mentioned in the initial listing of appliances which may indicate that interviewees give an idealised version of their household assets when directly questioned.

The preparation of the slow-cooking dishes - which are 'traditional' to rural areas - is also not mentioned in the inventory of daily cooking procedures. This may indicate that these dishes are only made on special occasions. Slow cooking procedures and their extended energy consumption may motivate the use of a 'cheaper' fuel. It is important to note that the rate of fuel, and especially electricity, consumption may be very difficult for users to assess.

The household's lifestyle seems regulated and secure within its parameters of poverty, and expenditure on electricity does not seem to upset the household budget equilibrium.

COMMENTARY ON INTERVIEW NO 6, MQUDANDABA

The household is headed by a widow who has full-time employment in a local factory. Her daughter lives next door and helps with the housekeeping. The homestead has a small maize field but no other subsistence practices.

The electrical services have been extended from the kitchen where the Electrical Dispenser is located, to the other buildings by taking lead cords from the plug-outlets on the ED. The respondent finds that she uses more units than she expects to, and would like the ED to be checked more often or the unit prices to drop. Her opinions of electrical household services are very positive (easy, clean and safe) and she mentions that the electrical lights make it possible for her to work late.

The first electrical appliance she bought was a two-plate stove, followed by a TV and a refrigerator. Little capital is spent on improving cooking facilities (such as more stove plates or an oven) in comparison to the huge amounts spent on media and refrigeration. This is probably because the stove is believed to be expensive to use, while the TV and refrigerator are cheap. Furthermore, the habitual cooking patterns were often restricted to one-plate paraffin cooking. The running expenses on electrical units are small in comparison to capital expenditure or credit repayments on appliances, which might be attributed to the split in the household budget where income earners determine what money is spent on. Because this is a self-supporting widow, however, that seems unlikely.

The interviewee buys three pre-paid electricity cards in small units of R20, but all at the same time at the month end when she is paid. The motive for this was not clarified, however the access to units cannot be controlled once the card has been clipped (apart from flipping the trip switch). For an absent household head, the splitting of electricity expenditure into smaller card units may be a means of control in order to make units available for 'essential' (perhaps the refrigerator) or 'preferred' electrical domestic services as the month passes. According to field worker Faith Hlongwa, users respond to the flashing light warning that the units are about to run out and not to the gradual shifts between R10 points on the meter.

The electrical two plate stove is not used for the breakfast or lunch time meals as no cooking is done, but for preparing the evening meal. Cooking processes are speeded up (by changing ingredients or pre-soaking beans) so that no excessively long procedures are executed on the stove. The electrical kettle is used for all water heating purposes and the electric iron and refrigerator are used.

COMMENTARY ON INTERVIEW NO 8, MQUDANDABA

The interviewee practices as a sangoma and is a single mother. There are eight household members. She earns an income only from her work as a sangoma. She employs a domestic worker and owns a car.

Rated in terms of cash expenditure, the patterns of appliance acquisition and fuel expenditure indicate that she is not particularly wealthy. Wood and paraffin are still used in order to save on electricity expenses. This must be seen in the light of the fact that she employs a domestic worker providing time and labour which using these fuels require.

The electrical wiring of the main modern building with four rooms is sophisticated. The record does not indicate who did the wiring and how it was paid for. The expenditure on capital investments like the house and the refrigerator seem out of keeping with the low budget for running expenses. As there is only one income earner this phenomenon cannot be ascribed to divergent sources of income. The domestic labourer probably has no influence over the choice of appliance and fuel combinations used in the homestead.

The sequence in which appliances were acquired indicate a prioritisation of domestic services such as ironing and cooking over media - a prioritisation which is often inverted in households interviewed. The respondent said that she did not want any more appliances as those she had were sufficient.

The income from the sangoma's work is, presumably not regulated on a monthly cycle. It is therefore interesting that she only buys a new card when the warning light on the dispenser goes off. Other interviewees seemed to have secured, if not registered, a months supply of pre-pay cards at the month end.

Household services have only partially been electrified, and although appliances for all the basic services are available, other fuel appliance combinations are also used.

COMMENTARY ON INTERVIEW NO 10, MQUDANDABA

In terms of practical day to day household functioning this is a small family with three permanent residents of which one, the mother, is a full-time housekeeper. There are two absent household members.

The total cash income is unknown, but comes in the form of a remittance, the timing of which is not consistent. From the expenditure patterns of the household, it seems probable that cost savings on running expenses is a serious consideration in managing livelihood strategies. There is fuel switching and a dependence on the daughter in the household to supply part of the money for electricity unit costs.

There had been problems with the installation of the electrical dispenser which was faulty. It took six months before for the recipient had worked out what the problem was - thinking the appliances were faulty - and had managed to get Eskom to install a new unit.

The wiring for lights and additional plugs was undertaken by a family member, probably a layman. The interviewee prefers electricity to other fuels as it is saves time, is easier to cook and iron, and it is possible for the children to study.

Questioned about why she liked electricity, she said it was cheaper than other fuels, although in practice she uses paraffin for cooking because it seems cheaper. The paraffin is bought in small quantities (R1.75) and electricity in R10 cards. This need to revert to small expenditures as a survival strategy was not fully investigated. It is not known whether the interviewee can evaluate the actual cost of units for the use of separate appliances by reading the rate of unit use off the meter or by experience in use of electricity.

She said that it is easier to do the household energy budgeting through buying cards than with the budgets for other fuels. In the light of the actual household practice of small cash expenditures on energy, this statement may refer to an ideal situation where cash income is sufficient and/or predictable. This household depends on irregular remittances, which are unlikely to be adequate over longer irregular intervals.

It is possible for the interviewee to use electricity for various basic household energy services as the appliances are available. It is probably the ease of this facility, more than its actual employment, that she refers to when she says that using electricity displaces the use of other fuels. In practice, she uses paraffin although she seems clear on having eliminated the use of inconvenient fuels such as wood and dung from her household.

It may be that the need for simultaneous use of multiple energy sources, or short term fuel switching, influenced the practice of using various fuels in the household. The current combined use of paraffin for cooking and electricity for water heating may have displaced an earlier combination of wood and paraffin. This hypothesis has not been adequately investigated but suggests that a further factor may contribute to the continued use of paraffin in the household.

There is an apparent avoidance of the use of the electrical two plate stove, although it is not clear that the paraffin and electrical stoves are not used simultaneously or alternatively. There may well be hidden factors in the decision not to use the electrical stove plates that relate to the characteristics of the stove itself - possibly limitations on pot size or the slow heat up of plates. It may also relate to the need to save electrical units for preferred electrical services such as lighting, the use of the kettle or media. In conversation, field worker Faith Hlongwa reported attitudes of Loskop interviewees on the use of two-plate electrical stoves that substantiate this perception that the stove is inhibited by various factors.

The energy use in the household is still based on mixed fuel use, even though the appliances for switching basic services are all available in the homestead.

COMMENTARY ON INTERVIEW NO 1, MSWELENI

This household of two adults and three children is entirely dependent on remittances of R400 from the father who works in Johannesburg. The respondent is the mother and functional head of household.

The homestead has been electrified for a maximum of nine months (the exact date is not known). Ceiling lights extend from leads plugged to the electrical dispenser and no additional plug outlets apart from those on the box have been installed.

An electrical iron is the only appliance bought so far, but the respondent would like to obtain the following appliances: a stove with an oven, a refrigerator, a heater, a kettle and a TV.

Household services are obtained from using a paraffin stove and wood, both in the inside hearth and the outside fireplace. The household buys R20 worth of electricity pre-paid units per month and never run out of units.

The respondent has received no information from Eskom on the use of electricity and is not aware of any relationship with Eskom.

For cooking, the paraffin stove is used in the morning, and both this stove and the wood fire are used for preparing the main meal of the day. The interviewee stated that the reason for using the paraffin stove is that she does not have electrical appliances. The interview report does not state when or how she will obtain these, or the reason why she has not already obtained them. It is however, evident from the monthly income that the family is very poor. The expenditure on energy amounts to R108 which is more than 25% of the monthly income.

The respondent uses wood fuel which entails time consuming processes - she is a full time housewife - which seems to be used mainly for water heating. Services like breakfast tea that need to be done quickly are however, done on the paraffin stove.

This is a poor household and the expenditure on fuel is high. The access barriers to appliance acquisition may be poverty. This may be overcome by the gradual acquisition of appliances at a later stage as electricity has not been available for a long period.

COMMENTARY ON INTERVIEW NO 2, MSWELENI

This is a large household of eight members, four of whom are children. The income from three working adults and a pension seems to be regular but inadequate. Some of this income is from casual labour and is calculated in weekly cycles. There is no mention of any other subsistence practices.

The homestead has been electrified for one year. Electricity seems to be mainly used for lighting, the electrical kettle and the TV. The household do not own an electrical stove. The interviewee commented that the household runs out of electricity cards regularly as they do not have enough money to buy cards.

The sequence of electrical appliance acquisition and the persons who bought them indicates that the income earned by the various members of the family is spent on different services and commodities. It is problematic to assume that the total income is available for the functional head of household to manage the capital expenses and survival strategies.

Expensive appliances for recreation have been bought, although the household has no electrical stove. This prioritisation may be partly because the running costs of a stove are generally seen to be high by people in this settlement, and the household budget is short on cash for running expenses. The household also owns both gas and paraffin cooking appliances which may meet their current cooking service requirements.

The use of gas and paraffin for cooking seems interchangeable, but may be explained by the large number of household members that have to be cooked for, which requires that more than one set of appliances are used. The fuel switching may also be influenced by a pattern of small intermittent expenditures on running expenses, as the monthly income seems to be too small to cope and the expenditure strategies may be structured around the weekly and casual income opportunities.

It would seem that the coal stove is the preferred cooking appliance, but that it is perceived as too expensive to use. This preference may be partly because the stove can accommodate more pots. The stove is used in winter when it also provides space heating for which the household seems to be willing to increase expenditure substantially.

Water heating for all the services except clothes washing and beer brewing - which both require large amounts of water and are not part of the daily domestic routine - is done using the electrical kettle. This is perceived to be fast and cheap.

No explanation is given for the concurrent use of the electrical iron and the paraffin stove for ironing, or for the consistent use of candles when electrical lighting is clearly preferred. It is clear however, that they do run out of electricity often, and the use of another fuel may be a measure to save electrical units for preferred services such as lighting or water heating. Non-electrical appliances may also be used when the household runs out of pre-paid units and do not have enough cash to buy more.

EDRC Case Study Two: the Post-Electrification of Loskop

The essential service of cooking is not done on electricity, but is sustained using another fuel. It is possible to switch all other domestic services away from electricity use. If there is a cash crisis, paraffin seems to be most readily available in small quantities, whereas electricity, gas and coal are bought in larger units of expenditure.

Before the advent of electricity, the household had paid the neighbours for storage space in their gas refrigerator. Now, with electrification, they get this service for free. The costs of buying refrigeration space from a neighbour reveals the fact that the running costs of gas refrigeration are seen to be exorbitant compared with the electrical unit consumption for the same service.

COMMENTARY ON INTERVIEW NO 3, MSWELENI

This large household of eight members comprise mainly adults and the income derives from the father who remits money from Johannesburg, and the mother who sells sweets locally. The only subsistence practice is the keeping of chickens.

The household expenditures are split according to the preferences of the income earners as the Johannesburg remittances are used for schooling, transport and food only, while the running expenses of the household seem to be the responsibility of the mother.

The household has had electricity for nine months and the respondent said that electrification has made her life easier - it is now easy to cook, iron and make tea. The appliances that the household have so far acquired have mainly been functional in terms of the services usually undertaken by the female functional head of household such as cooking, ironing, refrigeration and water heating. The household had a TV and refrigerator prior to electrification.

The fuel use is mixed and the paraffin stove is used because the electrical units do run out every month. The expenditure patterns on paraffin are small and intermittent, which could indicate that it is part of a day to day survival strategy where cash is allocated as it comes in, or as expenditure allocations are revised. It is noteworthy that the mother earns the money for running expenditures by selling sweets locally.

The one highly rated characteristic of electricity use is the saving of time, especially in the early morning before the children go to school. The household maintains a mixed energy use despite the fact that they have all the necessary appliances for electrifying the basic services. The reason for this may well be the recurrent shortfall of electricity units.

THE OPINIONS AND PERCEPTIONS OF INTERVIEWEES: ELECTRICITY USE

The opinions and perceptions expressed by interviewees are valuable in indicating their experience of the electrification programme. Interviewees had very positive attitudes towards electrification and the benefits of the various electrical energy services. There is also a degree of idealisation of electrification that becomes apparent in the review of the practical application of electrified domestic services and in light of the user's lack of knowledge about use, technology, quality, and especially the cost of electrical service packages.

For example, interviewees who use electricity for various basic household energy services, do in fact choose at times to use other fuels. It is probably the advantages of these electrical service facilities, more than their actual use, that is referred to when interviewees say that the use of electricity displaces the use of other fuels.

Indirect cost savings, such as in the use of refrigeration services, are also highly valued. According to field worker Faith Hlongwa, the social status attached to electrification and its association of electricity with wealth, also seem to play an important role in the positive opinions of interviewees on electricity use.

DESIRABLE CHARACTERISTICS OF ELECTRICAL DOMESTIC SERVICES

The most valued characteristic of domestic electrical services is convenience. This includes time saving (as a high priority), speed of processing, cleanliness of appliance use, and convenience of access by flicking a switch. Cost savings on energy expenditure are often indicated as being of supreme value. These statements must however, be qualified by the fact that users have little knowledge of the cost of individual energy service packages and take few risks in using the specific energy services that they perceive to be expensive.

There is no information or expertise available to users which relates the practical application for everyday use of services. As electrification is still very new, people have not built up an intimate knowledge of the cost-in-use of electricity which comes through experience. In practice, many of the interviewees retain patterns of mixed fuel use.

EVALUATIONS BY USERS

The interviews do render important information on the valuation by users of the desirable and undesirable characteristics of domestic energy services. These opinions should be used in designing service packages and appliances. Such information is only partly revealed in this kind of interview but there are ample indicators for further investigating the aspects of energy application that would make a real difference towards improving the energy use and livelihoods of poor rural households.

ELECTRICAL APPLIANCE ACQUISITION

In reviewing the lists of appliance acquisition for each household, patterns of acquisition indicate that media (TV and radio) are an important part of life for the households interviewed. This is supported by anecdotes on lifestyle and timeline studies. There is evidence that households make large capital expenditures on refrigeration long before they upgrade the cooking facilities. The latter usually consists of an electrical two-plate stove.

The sequence of appliance acquisition does not always indicate energy service preferences or support the hypotheses about prioritising electrical services (media versus cooking apparatus) by male versus female income earners, or the absent versus the functional head of household. There are many contingent factors to appliance choice that can be further researched, such as the impact of perceived or real notions of running costs of the appliances, habits and style of cooking on limited paraffin facilities, value of stock of existing appliances, etc.

THE CONTINGENCY OF ENERGY USE PATTERNS ON THE DEMOGRAPHIC STRUCTURE, INCOME STRATEGIES, AND LIFESTYLES OF HOUSEHOLDS STIMULATED THE FOLLOWING OBSERVATIONS

Livelihood strategies

Livelihood strategies are geared towards:

- Saving time in energy service provision, especially at specific times of the daily domestic schedule.
- Cost saving and convenience.
- Economic security and control of energy expenditures.
- Convenience in energy application.
- Improving livelihood standards as well as social status.

Energy expenditures are relative to the subjective value attached by users to the above mentioned issues, and these values may seem different for capital expenditure on appliances and expenditure towards running costs, fuel and electricity units.

Household demographics

It is difficult to pinpoint a correlation between household size and appliance acquisition as poverty seems to determine the use of the same basic appliances (such as the single paraffin wick stove or two-plate electrical stove) irrespective of the number of household members that are catered for. This cannot however, be verified by reference to a quantitative comparative study.

It seems likely that additional service required by large numbers, although not reflected in more extensive appliance acquisition, impacts on time and labour inputs into these energy services. The perception of electrical services as being quick and saving on labour and time could be attractive for users who cater for large households.

The various interviews revealed aspects of the household demographics and homestead function that could impact on future energy uptake patterns. These correlations were not investigated in the survey and the following is merely an review of the demographic aspects that may impact on energy use.

The coherence of the household group as well as the range of age of members could impact on the extension of household energy services or the uptake of any specific energy use patterns. A young and growing family is more likely to extend their household services than a household of adults who are about to disperse to follow careers or marriages elsewhere. A household with dependents (such as students or unemployed adults) has different energy use patterns to one with full time employees which appears to be the reality in a rural area with links to industrial opportunity such as Loskop.

The households surveyed were primarily identified by homestead and it is the history of the homestead that will determine long term energy uptake from that specific grid

electricity supply point. Homesteads reviewed have various functions, such as family base, asset base or temporary residence. The interviews did not reveal the historical transference of homesteads within a community or family, or how that impacts on the homestead function and future electricity uptake.

Instead, interviews focused on the current occupation. This revealed the impact of the absence of the income earners (migrant workers) on household functioning and energy use patterns. There is a divergence between the interests of the functional household head (usually the mother) and the absent income earner (usually a father or son) regarding investment in appliances, prioritisation of domestic energy services and the responsibilities for daily running costs, and the impact the latter has on livelihood strategising around expenditure management.

Use of the electrical two-plate stove

Some of the very poor interviewees seem to avoid the use of the two-plate stove. This may be because using electricity for cooking is perceived to be more expensive than other fuels, especially for certain processes. The limitations on available pre-paid units may also be a reason for avoiding the 'expensive' stove, as does the split in household expenditure budgets, where running costs are the responsibility of the functional household head who commonly does not control or earn an income.

In general, it appears that improved cooking appliances are not prioritised even though cooking and water heating procedures take up the most time, labour and cash expenditures in the provision of domestic energy services. Little capital is spent on improving cooking facilities in comparison to the huge amounts spent on media and refrigeration. The stove is reputed to be expensive to use, while the TV and refrigerator are cheap. The hot-plate may well be seen as sufficient given that prior to electrification, cooking patterns were commonly restricted to one-plate paraffin stoves. These customary cooking methods had previously been styled to fit the use of a single cooking plate, and could well be continued on the electrical hot plate.

One of the main advantages of using electricity is the speed of processing food. It is thus sometimes used exclusively for dishes that require quick, intense heat such as frying for instance. Most users have solid-plate stoves that can be set at three main and two intermediate heat settings. However, the interviewer Faith Hlongwa, reported that the stove is used at its highest setting only and switched off when it becomes too hot. The interviewer also reported that the users seemed to believe that the two-plate stove is expensive to use on all settings.

Opinions on appliance characteristics were not often recorded but the field worker reports that interviewees did not like spiral stove-plates as they do not retain heat after switch-off, and also break easily and bend and wobble when washed. Solid stove-plates, are preferred. But because the plates are used on high settings, the stoves get very hot and are not sufficiently insulated underneath. Users must therefore place electrical two-plate stoves on an iron sheet or on bricks on the floor, to protect the table from burning when the stove gets very hot.

Saving time in energy service provision

One of the highly rated values of electricity mentioned most often by interviewees is that of saving time. This motivates the use of electrical kettles for water heating, especially at peak pressure times like at breakfast before the children go to school. Electrical stoves are used by people who do not have a much time for domestic work.

Field worker Faith Hlongwa, recounted the use of different appliances for cooking and said that generally interviewees find that working on a single stove plate (as is the case with most paraffin stove users) takes too long, requiring scheduling dishes and cooking in sequence. The paraffin stove also has many accouterments that have to be attended to that take time and effort, compared to electricity which is just switched on.

Most electrical stoves used are two-plate stoves, which makes it possible to do more than one thing at the same time, especially if used in combination with an electrical kettle. One of the main advantages of using electricity is seen as the speed of processing food, and it is used for dishes that require quick, intense heat.

Cooking procedures and choice of appliance and fuel

Slow cooking procedures are generally seen as expensive in poor households because of the long periods of fuel consumption. Cheaper fuel is often used, usually the paraffin stove. Where users have an intimate knowledge of fuel, they may know from experience how much fuel goes into a specific energy service package, and how that impacts on their fuel budget. (No scientific analyses of actual fuel use in household practice in local situations have been done to verify their empirical findings.) Users may thus choose a familiar fuel because of the certainty of control over expenditure it gives them.

However, with electrification, users may be unfamiliar with the rates and control of energy release from hot-plates. Certainly, the crude electrical metering indicator displayed on the Electrical Dispensers used in this settlement, do not have the facility for users to assess the electrical unit use of specific energy services. This is affirmed by field-worker Faith Hlongwa's anecdotes about the interpretation of pamphleted information by users. Cooking on electricity is rated as expensive and no mention is made of the impact of different heat settings on unit consumption.

The avoidance of electrical appliances for slow cooking may result from this. On the other hand, the real cost of running the two-plate stove used by these interviewees for slow cooking has not been researched, and the design of the stove may well be inappropriate and expensive for this kind of processing. This would mean that there is a need to ensure that appropriate appliances are available to compliment the electrification programme.

Refrigeration

The access to refrigeration (including a freezer) that electrification has brought about has benefited the lifestyles of households. Because of their relatively remote location, access to shops is limited and the storage of bulk purchases overcomes the hardship of

either continually making small expensive purchases locally, or traveling regularly to distant shops. This energy service thus indirectly affects saving on household expenditure in terms of traveling expenses, food wastage and through bulk buying.

Investigations of how refrigeration impacts on the choice of foodstuffs and its follow on effect on cooking procedures, (which in remote rural areas is often dictated by the availability of substance agricultural products or fuels and goods from local stores that can be dry-stored), does not fall within the scope of the study and could be further researched.

Savings on electricity consumption

The prepaid electricity units bought by interviewees are of high value to them. In referring to their patterns of energy usage, interviewees often motivate their actions and choices by saying that they are trying to save electricity. Their access to units, whether regulated on a monthly basis, is limited. It would seem that users save up their pre-paid units for preferred applications. It is possible that users revert to less desirable energy service packages for cooking. For instance, they may revert to paraffin in order to save pre-paid units for a service like lighting or water heating.

The strategies employed to save pre-paid electricity units vary from switching to 'cheap' fuels for long slow cooking procedures, to monitoring and controlling electricity use although only crude measures are available.

The following report illustrates this point:

"The user buys two prepay cards per month each with a value of R10. The mother who is the income earner and household head, pays for the cards. The cards are bought at the month end but only one is registered on the Dispenser while the other is put away. The one card can last up to three weeks. Splitting the units on two cards is a measure of restriction to inhibit electricity use - the son of 11 years likes to experiment with the electricity and she fears he will waste it if the meter registers R20 at the beginning."

Pre-paid electricity units

Many interviewees talk about limitations on pre-paid units. These limitations are not fully explained, but some interviewees said they always run out of pre-pay cards, while others said they never do. This may indicate good management rather than need fulfillment. Most interviewees depend on monthly income cycles and buy cards once a month, but this electricity budget is not necessarily sufficient to meet basic energy needs. This means that the households moves from security to insecurity in terms of access to energy in the course of the month. The following anecdote illustrates this:

"The user buys prepay cards to the value of R30 per month and then an extra card for R10 as they have a lot of appliances. She does not pay for all the electricity as she sometimes waits for her daughter to get a new one."

Households spend little on electrical units in comparison to capital expenditure or credit repayments on appliances. This might be attributable to the likely split in the

household budget where income earners determine what money is spent on. The split divides capital and running expenses, as the responsibility of different household members. Household strategies for survival centre primarily around budgeting, as the following report illustrates:

“She would like to use more appliances if only the electricity was cheaper than buying coal and wood, as she had difficulty budgeting.”

The problems with energy budgeting may be those of affordability, problems with energy cost- and energy use-estimates, or problems with cash flow that may be insecure and unpredictable. Energy use patterns are contingent on access to energy, and a user who has a fixed amount of energy units, would probably have much simpler energy use patterns than a user who does not know from day to day how the next energy need will be met.

In order to control energy expenditure, users have to know how much the usage for specific energy services cost. This becomes more important as the level of poverty increases. The following excerpt from an interview with a particularly poor household who used electricity mostly for lights and only occasionally for other services, illustrates the users need:

“The functional household manager said that although she knows it is unlikely, she would like to operate the electricity dispenser with coins so that she can regulate daily small expenditures on electricity.”

The characteristics of the particular Energy Dispenser installed in this settlement, impacts in a specific way on the patterns of card acquisition. The Dispenser registers the use of electricity units in multiples of R10, ranging from R80 to R10, and then registers the decreasing availability at R5, and finally shows a flickering warning light when the units are about to run out. For users who use units to the value of R10 over two weeks or more, the metering gives no indication of daily consumption:

“She has noticed that the meter roughly displays the amount or rate of units consumed. (At the levels of use in this household eight to 10 days could pass before the next button lights up and they cannot remember what they used in that time.”

In an effort to gain control of electrical unit consumption, users do not register all cards on the meter at once, although they may all be bought at the same time at the month end. This may be because access to unit consumption cannot be controlled once a card has been clipped (apart from flipping the trip switch). For an absent household head, splitting the electricity expenditure into smaller card-units and registering these periodically, may be a way to control the rate of expenditure of energy.

In order for users to build up a knowledge of comparative costs of electrified and other energy services, as well as of the range of electrical services, there has to be some way of registering the unit consumption for individual services. An intimate knowledge of the cost in use of electrical services will empower users to make beneficial strategic decisions to ensure household survival.

As with other fuels, the income earner in the household (usually and absent migrant worker) often determines the amount of expenditure on energy, without having a practical knowledge of energy use practices. A quote from a interview report shows a slightly dissimilar case:

“The working mother has little knowledge of the use and operation of electricity. She controls the final expenditure on electricity and is in charge of electricity use in the house and knows how to operate the dispenser.”

Faith Hlongwa mentioned that the use of smaller unit card values may also be attributed to the fact that users are experimenting with electricity, and this as a way of measuring and controlling their expenditure.

The power supply failures in the area seem infrequent, but people know that when there is a power surge as the grid supply is reconnected after a power failure, the electricity dispensers often ‘fill up’ to the maximum whatever amount may have been registered before. This may induce users to keep the registration of units as low as possible.

Information on, and knowledge about, electricity use and appliances

Most interviewees did not get information from Eskom on the use or safety of electricity. This may explain why there is a lot of talk in the settlement based on little real knowledge, according to the interviewer Faith Hlongwa.

Appliances are bought and operated without much knowledge about their functioning and least of all about their life cycle costs. For some interviewees, the only criteria for selecting appliances is that they are cheap or financially accessible (purchases are made where they have credit). This lack of knowledge impacts directly on their ability to maximise the usefulness of appliances and energy sources, their control over energy expenditure, and consequently the household survival capacity.

Interviewer Faith Hlongwa also reported that the distribution of a pamphlet which rated electrical appliances according to their unit consumption as expensive or cheap, may have fixed misapprehensions about the cost and diversity of electrical services. According to this pamphlet, the stove kettle and iron are expensive to use.

Degree to which household energy services have been electrified

This varies with the different households interviewed. Some have electrified all the services they had before, while others still use some other fuels to varying degrees. Lighting seems to be unilaterally preferred, but candles are still used in most households.

It is clear that ownership of electrical appliances is not a clear indicator of electricity use. Users consider the running costs of energy services in making choices to employ specific energy service packages, and the real or perceived notions on the high costs of using electrical cooking appliances in particular, may inhibit their use.

EDRC Case Study Two: the Post-Electrification of Loskop

Although users may have access to electrical energy services, the choice to use a particular energy service package at any particular time is contingent on many factors - that may be intrinsic or extrinsic to energy use - considered in strategising to ensure the household survival. It would seem that the poorer the household, the more often they are forced by circumstance to reconsider energy use practices. This makes it difficult to establish the degree of actual and consistent use of electrical energy services.

**APPENDIX 8 B:
HOUSEHOLD CASE STUDIES**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Centre
25 March, 1996**

| | |
|-----------------------------|------------------------------------|
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HOUSEHOLD INTERVIEWS

The following household interviews were conducted in Mqudandaba and Msweleni, Loskop in March 1996. Certain interviews were analysed in more detail in appendix 8a.

INTERVIEW 1, MQUDANDABA

HOMESTEAD LAYOUT

The homestead is situated very close to the motel and opposite the school. It comprises one building with a corrugated iron roof. The walls are plastered and painted inside and out. There are two rooms and a big yard where the children play.

HOUSEHOLD DEMOGRAPHICS

There are six members in this household. The mother is aged 40, one adult daughter of 23 years (Zandile) with her three small children (the youngest is six years) and her brother of 11 years.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income of R800 is earned by the mother working at the local Bata shoe factory, (she does shift work as a labourer). The family seems very poor. No other subsistence practices are undertaken and although there is a big yard, there is no garden.

HOUSEHOLD ELECTRIFICATION

The homestead was electrified in 1993. The installation cost the household R35. No additional plugs were installed.

The house has two rooms, both have electrical ceiling light fittings plugged into the plug outlets (each with its own switch) on the Electricity dispenser. The third plug outlet is used for the stove. The meter box is located in the kitchen. The respondent did not want it to be located elsewhere. There had been no problems with the installation and connection of the meter box. The standard Electrical dispenser and metering box in the homesteads in Mqudandaba were described by the fieldworkers as follows:

On the face of the box is a metering window which displays the monetary values, from R80 to R10 in figures diminishing by R10. At the bottom of the range a value of R5, corresponding to the value of units purchased in operating cards. A strip of green light points is displayed next to the monetary values and each point lights up as that specific value of available units is registered by the meter.

Cards are available in R10 increments up to a value of R80 and a minimum value of R5 can be bought on a single card. The unit card operates a once-off registration of units and is discarded after this initial registration. Cards are inserted into a slot and punched. Additional units can be punched in at any level of registration of units.

The rate of electricity consumption is displayed in diminishing values of R10 intervals. A red warning light flashes when unit consumption rate is high and also when the registered pre-paid units are about to run out (around a value of R2).

Users report that meters 'become full' with disruptions in electricity supply, and also that they have to disconnect all appliances for the reconnection of disrupted supply as a surge in the current could damage their appliances.

The board accommodates three plug outlets each with a separate on-off switch. There is a trip switch which trips when pre-paid units run out. (This is fixed in the on position with a safety pin by users 'to save electricity'.) There are three conduit outlets for house-wiring. The box also houses an incandescent light bulb with a transparent cover.

Electrification and lifestyle

The respondent said that electricity saves money. The crime rate has also dropped. Cooking is easy and quick - no paraffin pumping, no matches, no waiting for heat, no hissing and no smoke. She likes the cleanliness (as opposed to other fuels which are messy) and safety of electricity use. She thinks that electricity saves time and is very clean in comparison to other fuels. These opinions should be viewed in light of the fact that the respondent rarely has the privilege of using the electrical two plate stove for cooking.

Electrical appliance acquisition

The lighting was installed by her brother of 11 years (he likes to experiment with radios etc). The first and only appliance that has been purchased is a two-plate stove with solid cooking plates, which cost R149. This appliance does not give any trouble. The household has no plans to get other appliances at present as there is no money.

Other appliances

The household has a paraffin pressure stove and uses it when there is a power failure. Later during the interview it became clear that the paraffin stove is still used on a daily basis.

Power failures

Power failures occur when there is too much wind or during a thunderstorm, but this happens very rarely. The paraffin stove and candles are used when there is a power failure. She does not know who would fix the distribution box and the wiring.

Unit cost payments

The user buys two prepay cards per month, each valued at R10. The mother, who is the income earner and household head, pays for the cards. The cards are bought at the month end but only one is registered on the Dispenser while the other is put away. The

one card can last up to three weeks. The splitting of the units on two cards is done to restrict electricity use - the son of 11 years likes to experiment with the electricity and she fears he will waste it if the meter registers R20 from the beginning.

In practice, most of the units are used for lighting as the electrical stove is not used often. The functional household manager said that although she knows this will never happen, she would like to operate the electricity dispenser with coins so that she can regulate daily small expenditures on electricity. The cards are bought at a local motel which she finds convenient because it is very close by. She does not obtain free electricity by any means.

The mother controls the final expenditure on electricity but Zandile is in charge of electricity use in the house and knows how to operate the dispenser. She has noticed that the meter roughly displays the rate of units consumed. (At the levels of use in this household eight to 10 days could pass before the next button lights up and they cannot remember what they used in that time). The working mother has little knowledge of the use and operation of electricity.

Electrification education

She did not get information from Eskom on the use or safety of electricity. (However, there is a lot of talk in the settlement based on little real knowledge according to the interviewer Faith Hlongwa).

Relationship between household and Eskom

The respondent said that there is a relationship with Eskom, however, there are no contracts on paper between individuals and Eskom. She said it is easy to communicate with Eskom because they are always around the area.

Domestic energy services

The respondent said that cooking, heating water and space heating were expensive to perform using electricity, and that lights and media were cheap. (The TV is perceived to use electrical current only to switch it on, but is seen as expensive because the licensing is expensive.) She would not like to have hot water from a tap or large hot water drum.

HOUSEHOLD ACTIVITIES

Cooking

Cooking is done on the paraffin stove because it is perceived as cheaper than the electrical stove. The electrical two-plate stove is kept in its box on top of the cupboard and only used by the mother when she cooks for guests as she does not want the food to taste of paraffin which comes from the fumes.

Breakfast consist of tea and bread, and she uses the paraffin stove for this because it is cheap.

For lunch/daytime snacks potato curry and phutu is eaten. This is cooked on the paraffin stove and costs less than R1. (Younger children leave school early and are home in time for lunch.)

For the main meal of the day (supper) curry and rice is made starting at about 15:00. It takes about one hour to prepare. The paraffin stove is used for this meal by anyone (The respondent herself or sometimes her mother) in the household.

Heating water

For bathing the water is heated on the paraffin stove because it is cheap. She heats three large kettles full and they bath whenever they feel like it. Water for drinking is heated at any time of the day, and the paraffin stove is used (the big kettle is only partially filled). She does not use electricity.

For dishwashing the paraffin stove is used to heat water to a lukewarm temperature. It costs less than R1. (This is easy to measure because paraffin is often bought and paid for in one litre quantities that cost just under R2.) She does not brew beer. No other hot water services are used in the household.

Lighting

Currently they use electrical lighting, but they used candles previously. There are lights in both rooms and anybody uses them. She does not know how much it costs.

These were installed by her son of 11 years. On the question about whether she liked electrical lights, she said they are very bright. There are no outside lights.

Ironing

She uses the paraffin stove for ironing on a daily basis. This is done by any of the adults in the household. She says that it costs less than R1 per session.

Space heating

She does not have space heating.

Media

She has no TV or radio.

Refrigeration

She does not have a fridge. She would like a fridge because it keeps food fresh for weeks.

INTERVIEW NO 2, MQUDANDABA

HOMESTEAD LAYOUT

The homestead consists of a single square building in a small yard. This is a concrete block building and has not been plastered inside or out. He was given this plot by a friend and intends to keep it so that in the future he can have tenants, here or if his son comes to work in Estcourt he will have a place to stay. The house is situated about 10 to 12 minutes walk from the motel.

HOUSEHOLD DEMOGRAPHICS

There is only one member to this household, namely one adult male, aged 47 years. However, he is the income earner of a family unit located near Bergville and works as a 'migrant' at the Bata factory where he is a security guard.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income of R600 is earned at the Bata factory which is within walking distance of this house. He supports his wife and three children in their Bergville homestead.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in 1993. The installation cost was R35. The house has one room, with an electrical light fitting - an exposed bulb from the ceiling - and the meter box is located in this room. He thinks it is in the correct place.

There is one outside light fitting with a glass cover. The interviewee did the wiring for the lights and the plugs himself.

He has a standard Electrical Dispenser as described in interview no 1. There had been no problems with the installation and connection of the meter box.

Electrification and lifestyle

The interviewee said that the house is clean and that he is saving a lot of money. Life is so easy because he does not have to wait for food to be cooked as electricity is quicker to use. He agreed that it is cleaner than other fuels and said he would like electricity to provide increased safety.

Electrical appliance acquisition

The lighting was installed by the interviewee himself and consists of a plug with extension cord from the electricity dispenser. The first and only appliance that has been purchased is a two-plate cooking plate which cost the interviewee R95. He said that it does not give trouble.

The interviewee would like to get a fridge for R1 500 and an clothes iron for R60. (At present his girlfriend does his ironing using a solid iron on the paraffin stove.)

Other appliances

The household has a paraffin pressure stove and it is used when there is a power failure. Later during the interview it became clear that the paraffin stove is still used on a daily basis.

Power failures

Power failures occur when it is windy, but this happens very rarely. The household never runs out of electricity card units. Candles are used when there is a power failure and when this happens he does not cook, eating maas and bread instead. He is of the opinion that Eskom is responsible for fixing the distribution box and the wiring.

Unit cost payments

The user buys one prepay cards per month, costing R20. The cards are bought at a local motel which he finds convenient because it is very close by. He does not obtain free electricity by any means. He is in charge of electricity use in the house and is not sure if the meter displays the amount or rate of units consumed.

Electrification education

He did get information from Eskom on electricity. Pamphlets were distributed in 1993 on how to save and use the meter card, but not about the use or safety of appliances.

Relationship between household and Eskom

The respondent had no comment about the relationship with Eskom. He is always at work and at weekends he goes to his family in Bergville. He said it is easy to communicate with Eskom because they are always around the area to listen to their problems.

Domestic energy services

The respondent said that cooking and heating water and lighting were cheap to have electrified and that he can afford it. He did not know about media or space heating.

He would not like to have hot water form a tap or large hot water drum. The homestead in Bergville where he goes on weekends is electrified and he has most appliances there. This interview reviews only the assets he has in his house in Mqudandabe.

HOUSEHOLD ACTIVITIES

Cooking

He rarely does any cooking. He does not prepare any dishes for breakfast.

Lunch/daytime snacks consist of bread and fruit juice, which he just buys.

For the main meal of the day (supper) she cooks anything he feels like at 18:00. This is done on the two plate stove and he has no idea of the actual cost. It saves time and is easy on this electrical stove.

Heating water

He has no electrical kettle. For bathing, water is not heated and he washes in his room. Water is not heated for beverages as he does not drink tea or coffee and cold water is used for dishwashing. He does not do beer brewing and no other hot water services are used in the household.

Lighting

Currently he uses electrical lighting, while before he used candles. There is a light in the room which was installed by Eskom. He likes electrical light because it is very bright.

There are no outside lights, and he does not think that electrical lights help with personal safety. He does not know what the electrical lighting cost but says it lasts forever. When he does use candles, they cost 70c each and last for three days.

Ironing

He has an ordinary iron (solid plate) which he heats on the electrical hot plate. Heating on the electrical plate is better because it is always clean. He irons when he wants to, in his room. He says that it is clean, safe and easy.

Space heating

He does not heat the room.

Media

He has no TV or radio.

Refrigeration

He does not have a fridge, but likes a fridge because it can keep drinks cool and food fresh.

INTERVIEW NO 3, MQUDANDABA

HOMESTEAD LAYOUT

The homestead is situated very close - about three minutes walk - from the motel in the settlement. The settlement, Mqudandaba can be described as fairly densely populated and informal (in layout) with few rural subsistence activities apart from the keeping of cattle. The railway line that links Estcourt and Winterton runs through the area and serves several factories in the area. The homestead consists of two square rooms and a rondawel.

HOUSEHOLD DEMOGRAPHICS

There are five members to this household. Two adults, Mavis aged 34 and Michael aged 36. There are two small children, one of 11 years who is at school and a baby of nine months. Her sister in law who is a school pupil also lives with them. The baby is looked after by the neighbour while the mother is at work.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

A total income of R3 500 is earned by the two adults. The husband works as a factory supervisor and the wife as a machine operator for Bellose factory which is in Estcourt. They commute there by taxi and it takes them about 10 minutes.

She has recently bought an overlocker and a sewing machine for herself but is just using it to make things for the family and the house.

The family get water from the neighbour who has piped water, via a hose pipe.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in 1993. The installation cost the household R35. The interviewee has not heard of any problems regarding the connections and installation of electricity.

Additional plugs were installed in the two square rooms, there are two lights in the large room and one each in the small square room and the rondawel. The meter box is located in the larger square room which is the kitchen. The respondent expressed no desire for it to be elsewhere.

Her brother had done the wiring and installation of the lights and plugs free of charge. There had been no problems with the installation and connection of the meter box and the interviewee said she thought it the responsibility of Eskom to repair the meter box and the wiring.

Description of the meter box: Standard electricity dispenser described in interview no 1.

Electrification and lifestyle

The respondent said that they are now saving time and money, their houses are clean and they now paint only once a year. She would like to get reliability and safety-in-use with the use of electricity.

When asked about her opinions on electricity she said that the children can play outside at night, and that crime is eliminated. (The outside lighting is provided by private lights on houses, not street lighting.) Electricity is safe to use and is very warm in winter.

Electrical appliance acquisition

The first electrical appliance that was bought by the interviewee, is a sewing machine. The second appliance was a fridge that they both paid for.

Other appliances include:

- A two plate electrical cooking plate which cost R109.
- Electrical kettle which cost R59
- Electrical clothes iron which cost R79.
- Electrical fridge which cost R1 499.
- Two electrical bedside lamps which cost R49.
- TV which cost R399.
- Hi-fi which cost R3 000.
- Another electrical overlocker for sewing which cost R1 557.

The shop in Estcourt delivered all these appliances that they bought at the same time.

The next electrical appliance that the household would like to buy is a four-plate stove with an oven some time this year at a cost of R2 000. None of these appliances are giving any trouble and the respondent had no information on who would fix them.

Other appliances

The household has two small gas cylinders that they use with a screw-on cooking plate and a screw-on lamp.

Gas is used when there is a power failure for lights and cooking. Before electrification they had used gas appliances.

Power failures

Power failures occur when it is windy or there is a thunderstorm. This does not happen very often but it happens in winter when there is wind and in summer as well. Candles are used and cooking is done on gas when there is a power failure. The household never runs out of electrical cards.

Unit cost payments

The user buys prepay cards, in R20 units and uses three per month, (the total unit cost is R60). Both the wife and husband pay for the cards. The cards are bought at a local motel which is convenient because it is very close by.

She does not obtain free electricity by any means and she supposes that all units are paid for. Both wife and husband are in charge of electricity use in the house. The meter does not, according to the interviewee, display the amount or rate of units consumed.

Electrification education

She has no idea of electrification instruction and thinks that though she did not come across anyone from Eskom who did this, other community members might have been instructed, but she was not.

Relationship between household and Eskom

The respondent said that there is a formal relationship with Eskom as there are representatives of the community who speak to Eskom if there is a problem.

Domestic energy services

The respondent said that cooking, heating water, lights, and media were cheap to run on electricity but that space heating is expensive. She would like to have hot water from a tap or large hot water drum.

HOUSEHOLD ACTIVITIES

Cooking

Breakfast consist of soft porridge, which is made using electricity because it is easy to use and quicker.

They do not cook during the day.

Main meal of the day (supper) consist of curry with rice, phutu, samp or steam bread. This is made at 15:30 in the afternoon by her sister in law, (after school) and she uses the electrical hot plate. She does not know how much electricity is used for this.

Heating water

Water for bathing is heated using the electrical kettle. She uses the electrical kettle because it is quick and saves electricity, but she does not know how much this service costs. She heats six kettles full in the morning and the afternoon. This is also done by her husband.

Water for drinking is heated at any time of the day using the electrical kettle and it is done by herself and her husband. She believes this is cheap and quick.

For dishwashing, water is heated in the electric kettle and one kettle full is heated, taking only a few seconds. This is done whenever there are dishes to wash. She does not know how many units this uses or how much it costs.

She does not do beer brewing and other hot water services include using the electrical kettle to make the bottles for the baby. She also uses a thermos flask.

Lighting

Currently they use electrical lighting and before they used gas - they have one gas lamp. There are lights in all the rooms and an outside light. The lights were installed by her brother and are used by everyone.

She does not know how much it costs nor does she know how much lighting using other fuels costs. She likes electrical lighting because it is bright and safe.

Ironing

She uses an electrical iron.

Refrigeration

She does have a fridge but does not know how much it costs to run. So far there has been no need to fix the fridge which is used for domestic purposes. No-one else in the community has use of it.

She likes the fridge because it keeps food fresh. It is located in the kitchen which has a concrete floor and she puts it on a wooden pallet because the water drum often overflows onto the kitchen floor.

INTERVIEW NO 4, MQUDANDABA

HOMESTEAD LAYOUT

The homestead has two buildings, one a flat-roofed square building and the other a rondawel.

HOUSEHOLD DEMOGRAPHICS

There are four members in this household, a mother and two children of seven and five years. The father works in Johannesburg in a restaurant and is home in his holidays.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

The mother, who is the functional head of household, relies entirely on the remittances from her husband for cash income.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in the summer of 1994. One light was supplied with the installation package which included the meter and distribution box. The interviewee said that she wanted to have a second distribution box because this will be cheaper and more easily accessible than getting a plug extension.

There are two lights in the flat-roofed building and one in the rondawel. The meter box is in the square building and an extension cable leads to the rondawel. There is an outside light that her husband installed, which he bought it in Estcourt.

The installation cost to the household was R30 and no other costs were involved. The local electrification committee went to Eskom in 1993. Application forms were given to the households and they were given numbers, after which Eskom installed the electrical box. Eskom had started closer to the Berg and that area has another extension (see the map).

No additional plugs were installed and only those on the distribution box are used. The respondent expressed no desire for the box to be elsewhere.

Electrification and lifestyle

The respondent said that electricity saves time. (None of the respondents mentioned cost saving.) She does think that electricity saves time and is very clean in comparison to wood.

She has never been shocked and knows no negative aspects of electricity.

Electrical appliance acquisition

All the appliances were bought for cash in Estcourt and transported to the homestead by herself, except the fridge which was delivered - this delivery over 25 km cost her R60. She had asked her husband for the money and he gave it to her.

These appliances were bought in following order:

- There is a two plate stove which she bought in Estcourt.
- There is an electrical clothes iron which had cost R55.
- They have a radio.
- Her husband bought an electrical space heater, but she does not know the cost.
- The electrical fridge cost R1 250 and was delivered from Estcourt.

They use only the electrical lights. The next appliance she would like is a TV and she is actively saving towards it. There is nothing else that she wants.

The two plate electrical stove has broken and is being repaired in Estcourt. Both the kettle and the iron were dysfunctional and she thought the element of the kettle had failed as it did not heat up when plugged in. However, when she uses only the iron it does work (when the fridge and lights are switched off). She thought the appliances were faulty as not all work at the same time.

Power failures

Power failures occur when there is a lot of rain. The electricity trips for a day and is always repaired within 24 hours.

The paraffin stove and candles are used when there is a power failure, but candles are rarely used and she seems largely dependent on electrical lighting. She does not know who would fix the distribution box and the wiring.

Other appliances

The household has a paraffin pressure stove which she still uses. (The cost of this was R19.99) She uses this to heat water sometimes, and is used in conjunction with the electrical stove which she used half the time.

She uses 23 litres of paraffin per month and this cost her R32. Paraffin can be delivered to her house, but this means paying the taxi driver an extra R1 per 25 litre holder.

Wood fuel is still used and she buys it from the motel or store, which relieves her of going to the Drakensberg mountains to collect wood.

Unit cost payments

The user pays R29 per month for electrical units. She never has more than one card, as this is too expensive. Towards the end of the month the card runs out. She needs

money in cash and if she had that she could easily buy another card at the store as it is close by.

She buys one prepay card per month, each valued at R20 at the motel which she finds convenient. She prefers using the card rather than receiving a bill at the end of the month because it is easier and she does not have to stand in a queue. It is also easier to regulate, and is hassle free and she knows how much she uses.

She does not obtain free electricity by any means and is in charge of electricity use in the house. The children are too young and still too short to reach the meter and she does not encourage them to touch electrical appliances. She never looks to see if the meter displays the amount or rate of units consumed.

Electrification education

The only information Eskom gave on the safety of electricity was when they installed the meter. She was told not to use wet hands with electricity.

Relationship between household and Eskom

The respondent said there are no problems and that she is very satisfied with Eskom's service. She said it is possible to communicate with Eskom.

Domestic energy services

The respondent said that the heater and the fridge used the most electricity and that the two plate stove used the second most. Questioned about whether she would like hot water from a tap or a hot water cylinder, she responded positively, adding that Loskop needed many services such as piped water and good roads.

She thinks that electricity is particularly good for saving time, especially in the early morning when she uses electricity rather than the fire as it is cleaner and faster. This is why she prefers electricity to other fuels.

HOUSEHOLD ACTIVITIES

Cooking

Breakfast consist of tea and bread, and she uses the electrical or the paraffin stove for this along with a kettle/pot. She says that these appliances are easy and fast to use.

They do not usually eat lunch.

Main meal of the day (supper) consists of porridge. According to the weekly schedule, she has meat on a Monday, beans on a Tuesday and chicken on a Wednesday etc. This meal is made at 19:00 in the evening and takes about one and a half hours to prepare by the mother.

Heating water

For bathing, the water is heated on the paraffin stove. She heats one kettle full per day. They bath in the kitchen where the water is heated.

Water for drinking is heated in the morning only and it takes 10 minutes. She uses the stove along with the kettle/pot. She cannot say if the electricity used for this purpose is expensive. For dishwashing, the paraffin stove or the electrical hotplate is used with a kettle/pot to heat water.

She does not do beer brewing and no other hot water services are used in the household. She washes clothes using cold water once a week at the weekend.

Lighting

Currently they use electrical lighting and before they used candles. There are four electrical light sockets, one outside, two in the kitchen and one in the rondawel. She uses it in the evening.

Candles are only used if there is a power failure and they cost R2 per month. She has never used gas or paraffin lamps for lighting.

Ironing

She uses the electrical iron twice a week.

Space heating

She uses the electrical heater when it is cold.

Media

She uses a radio run on electricity.

Refrigeration

She has an electrical fridge with a freezer.

INTERVIEW NO 5, MQUDANDABA

HOMESTEAD LAYOUT

The homestead is situated next to the senior secondary school. It has two buildings, one is a square building built in cement blocks with an asbestos roof which has two rooms, one of which houses the meter box, one light fitting and two plug outlets. The second building is a rondawel which has not been completed.

HOUSEHOLD DEMOGRAPHICS

There are three members in this household.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

Two of the household members earn an income. The male works as a supervisor for SAB in Durban and comes home for weekends. The female is a school teacher at the local senior secondary school and is at home permanently.

The total income of the household is R3 500 per month and is regular and stable.

No other livelihood activities were reported. Water for the household is free and is fetched from a communal tap about five minutes walk from home by the school children who use a wheelbarrow and fill four or five 25 litre drums when needed.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in 1993 at a cost of R33

The meter box is in the kitchen which the interviewee approves of. Faith Hlongwa reported the procedure for installation as follows: home owners were asked by the Eskom installation team where they would like to have the electric dispenser installed. Their wishes were followed except if it was not possible to take an overhead cable from the existing pole to the specific location.

The wiring for the lights and plugs was done for free by the interviewee's brother who is a qualified electrician. Wiring for both additional plugs and lights was done using surface conduits from the outlets provided on the electricity dispenser.

There were problems with the initial installation of the electricity dispenser as it was not working for the first few days after installation. However, Eskom workers came to inspect and found the fault in a loose wire, and it was immediately fixed.

The interviewee said that Eskom should be responsible for fixing the distribution box and the wiring. The electricity dispenser and meter box is the same as the standard one described in interview no 1.

Electrification and lifestyle

The respondent said that electricity saves time especially for cooking. They are also able to keep food for weeks which they could not do before. The interviewee pre-cooks meals and keeps them in the fridge/freezer and also buys groceries in bulk in Estcourt once a month which she can now preserve in the fridge.

Even though they are in the rural areas, the respondent said they know what is happening around them because they have a TV.

She would like to (expects to) save money by using electricity. She does think that electricity saves time and is very clean in comparison to other fuels. Her personal opinion on electricity was that it is safe to use.

The interviewer also reported that locally, electrification was strongly associated with the status and wealth that was apparent when a few houses and the motel were privately electrified at great expense before the current electrification programme had been initiated. Local households were keen to obtain electricity for its convenience and also for its status and association with wealth.

Electrical appliance acquisition

The lighting was installed by her brother. Other appliances include:

- Electrical two-plate stove, which cost R159.
- Electrical cooker-pot with an element which cost R79 and was purchased at Makro.
- Electrical fridge and freezer combination which cost R2 400.
- TV which cost R2 999.
- Hi-fi which cost R1 600.

The electrical appliances were bought in the following order:

First the TV (for which they both paid), second the fridge (for which they both paid), third the radio (for which they both paid), fourth the cooking pots (for which they both paid), and lastly the kettle.

Next they want to buy a stove with an oven, which they will get in October and which will cost R2 400. She would like this appliance so that she can bake in the oven. She would also like to have an electrical sewing machine.

These appliances do not give any trouble and no information was given regarding possible repairs. They also have no need to transport their appliances themselves.

The interviewee stated that she did not like spiral stove-plates as they do not retain heat after switch-off and also break easily and bend and wobble when you wash them. She prefers solid stove-plates. The electrical two-plate stove is located on a table and set on an iron sheet to protect the table from burning when the stove gets very hot.

The stove plates can be set at three main and two intermediate heat settings, however the interviewer reports that the stove is used (also by other users interviewed) at its highest setting only and switched off when it gets too hot. Mostly plates seemed to be used while red-hot and lower heat settings are not utilised.

The interviewer said that the users seemed to have the perception that the two-plate stove is expensive to use on all settings and that one of the main advantages of using electricity is the speed of cooking food. It is thus sometimes used exclusively for dishes that require quick, intense heat inputs such as frying.

The electrical cooking pot is used by the interviewee exclusively to cook vegetables. The TV and Hi-fi are located in the sitting room while the kitchen appliances were housed in a kitchen room (where there is also a bed).

Other appliances

A gas cooker (two plate) which cost R150, is attached to a small 7 kg gas cylinder. This is used when there is a power failure or an electricity disruption and was used for cooking prior to electrification.

There is a lamp fitting that screws onto the same cylinder and is used when there is an electricity failure. Later during the interview it became clear that a gas heater was used for space heating, which consisted of a fitting screwed to the top of the same gas cylinder.

The household uses a solid iron which is heated on a paraffin stove. The paraffin stove is still used for long slow cooking procedures such as those required for making samp, beans and steam bread.

Power failures

Power failures occur when it is windy or there is a storm, which happens seasonally. The household does not run out of cards or money for electrical units. When there is a power failure, cooking is done on the gas stove and candles are used. They do not watch TV when there is an electrical power failure.

Unit cost payments

The user buys one prepay card per month for R80 and the spouse or the household head pays for the card. The cards are bought at the Mahlobo motel which she finds convenient because it is very close by. She does not obtain free electricity by any means.

She is in charge of electricity use in the house and is aware that the meter displays the amount or rate of units consumed.

Electrification education

She did not get information from Eskom on the use or safety of electricity. However, the interviewee had lived in Umlazi before and had used electricity when she was there.

Relationship between household and Eskom

The respondent said that there is a relationship with Eskom as personnel are always in the area who they communicate with.

Domestic energy services

The respondent said that cooking, heating water and space heating were expensive to have electrified, while lights and media were cheap. She knew this from her experience with electricity in Umlazi.

She would like to have hot water from a tap or large hot-water drum but is aware that a hot water geyser is expensive to run and that one has to save by switching it on and off all the time. She also said that she would never use a full bath of hot water but would continue using a wash basin in order to save on electricity costs.

HOUSEHOLD ACTIVITIES

Cooking

For cooking breakfast she uses the two-plate electrical stove to make soft mealie porridge and eggs because it saves time. Sometimes she makes hard boiled eggs by putting them into the porridge when it is cooking.

Lunch/daytime snacks consist of bread and a glass of juice, which does not have an energy cost because they use only cold water from the fridge. The interviewee is usually away at work at this time.

The main meal of the day (supper) consists of beef stew and rice and cooking starts at about 15:00 in the afternoon when she returns from work. It takes about one hour to prepare. The electrical stove is used to prepare this meal by the interviewee. She does not know how much electricity this consumes or how much it costs, because it is difficult to estimate. (The unit usage is displayed only in R10 increments which makes estimates about specific energy service costs impossible). She uses electricity because the cooking time is much shorter.

Heating water

For bathing the water is heated using the electrical kettle. They use 10 litres in the morning and in the afternoon. Any adult member of the household does this task. She does not know how much this costs, but uses electricity because it saves time and she finds that it is better than before electrification.

Water for drinking is heated at any time of the day and the electrical kettle is used. She says that using electricity for this purpose is better than before as it takes about five minutes and she makes many cups for everyone in the house.

For dishwashing the electrical kettle is used to heat water. This takes five minutes and she does not know what it costs.

She does not do beer brewing and no other hot water services are used in the household. Clothes are washed in cold water at the community tap point.

Lighting

Currently they use electrical lighting while before they used paraffin lamps. There are lights inside and outside the house which are used by everybody. The outside light helps with personal safety and were installed by her brother.

On the question of whether she liked electrical light, she said it is very bright. She does not know what electrical lighting or any other energy source for lighting costs. The lights are open bulbs without lampshades.

Ironing

She uses the electrical iron with an ironing board in the kitchen. She does not know what it costs and believes this is better than the previous method of ironing as it is safe and clean.

Space heating

She uses a gas heater and a 19 kg cylinder of gas which lasts for a month costs R68.

Media

The TV runs off electricity and is in working condition. It cost R2 999 and both she and her spouse paid for it. The TV is used in the sitting room, where everybody watches. She has not had reason to repair it. The Hi-fi works off electricity and is in working order. They do not have a radio or a telephone.

Refrigeration

She does have an electrical fridge, which cost R2 400 and was paid for by both of them. It is an upright model with a separate lower freeze drawer compartment. She does not know how much it costs to run and has it switched on continuously. The fridge is in the kitchen and stands on wheels on a concrete floor.

It is used by the household and also by some neighbours. There is no cost attached to this sharing. asked whether she likes having a fridge, she said she did because you can keep food for days. She pre-cooks meals for a few days ahead of time.

INTERVIEW NO 6, MQUDANDABA

HOMESTEAD LAYOUT

The homestead consists of three buildings, one kitchen rondawel and one other rondawel (both in wattle and daub) and one square building in brick (the newest). The household intend to build another larger structure. The homestead is situated very close the motel.

HOUSEHOLD DEMOGRAPHICS

Mrs Gumede is a widow living with her children and next door to her daughter who is married.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

She earns an income of R900 working in the local Berhose factory. The household also has a small field of maize, but no other crops or livestock are kept.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in 1993 and the installation cost R35. The meter box was installed in the kitchen and she likes it there. Her son did the wiring for the lights and the plugs

The house has three rooms, two rondawels and a square building - all have electrical light fittings and there are plug outlets in the kitchen rondawel and the square building. The plug point and light extensions are taken directly from the plug outlets on the electricity dispenser.

There had been no problems with the installation and connection of the meter box. However, when they build the new building they will ask Eskom to relocate the electrical dispenser to that building. Eskom fixes the distribution box and the wiring.

Description of the meter box: The standard electricity dispenser described in interview no 1.

Electrification and lifestyle

In response to the question of what she expects of electrification she responded that she would like better service of the metering box as she suspects that hers is faulty as she uses too many cards and does not run expensive electricity services. She would like cheaper unit prices for the same reason.

Electrification has changed her lifestyle in as much as her house is clean, and she can work until it is late because she has bright lights. It is also now easy to cook. She agreed that electricity saves time and is clean in comparison with other fuels. Her personal opinion about electricity is that it is safe.

Electrical appliance acquisition

The following appliances were acquired:

- A two plate electrical stove, with solid plates, cost R149. This was the first appliance she bought and she paid for herself.
- The TV runs off electricity, and cost R1 999. This was the second appliance she bought and she paid for herself.
- The electrical fridge cost R2 000 and was the third appliance she bought and paid for herself.
- The electrical kettle cost R80.
- She has a radio but does not know what it cost.

She has not had to transport large appliances for delivery or repairs as the shop delivered them at an extra charge. She has no plans to get other appliances at present. Her appliances do not give any trouble and no one has had to fix them.

Power failures

Power failures occur when it is windy or there is a thunderstorm, which happens very rarely. The paraffin stove and candles are used when there is a power failure and she does not watch TV if this happens. She never runs out of cards for electrical units.

At reconnection there is a power surge which is dangerous for plugged-in appliances, but that “fills up” the electricity dispenser.

Other appliances

The household has a paraffin pressure stove which is used when there is a power failure.

Unit cost payments

The user buys three prepay cards per month - all at the month end - each with a value of R20, totalling R60. The interviewee, who is the income earner, pays for the cards which are bought at a local motel. She finds it convenient to send anyone in the family to buy them as it is close by.

She does not obtain free electricity by any means and everybody in the house has access to electricity use.

She has not noticed that the meter displays the amount or rate of units consumed. Like most interviewees, the only significant signal she reads is the red flashing light that warns that the units are about to run out.

Electrification education

She did not get information from Eskom or anyone else on the use or safety of electricity. There were some pamphlets distributed that were written in English and although there is a constant circulation of information within the settlement there is no expertise.

Relationship between household and Eskom

The respondent said that there is a relationship with Eskom because they are always around and which enables communication.

Domestic energy services

She said that cooking, heating water and space heating were expensive to have electrified, and that lights and media were cheap. She would not like to have hot water form a tap or large hot-water drum as she knows that this is expensive.

HOUSEHOLD ACTIVITIES

Cooking

Breakfast consists of tea and bread, and she uses the electrical kettle because it is quicker. She finds it better than the appliances she used before (paraffin stove).

For lunch/daytime snacks she only has tea during the day, and uses the electrical kettle for this.

For the main meal of the day (supper) she makes beans and steam bread and starts to prepare this at 13:00 and it takes her about two hours. Her daughter comes from next door to do the cooking using the electrical two plate stove. She does not know how much it costs to use the electrical stove but she uses it because it is quicker.

She speeds up the process of cooking beans by pre-soaking them overnight and she uses wheat flour in the home-made bread which requires a much shorter cooking time than maize flour (mealie-meal).

Heating water

For bathing the water is heated in the electrical kettle and it is not very hot. She heats five litres with the electrical kettle because it is quick and better than other appliances. However, she does not know what it costs. This is done in the morning and the afternoon by any member the household.

Water for drinking is heated any time of the day, and the electrical kettle is used taking three minutes. This is better than using the electrical stove which takes too long. She makes drinks for everyone but does not know what it costs. The respondent said that cheap pots used on the stove do not make good contact with the solid stove plate and as a result take longer to heat.

For dishwashing, the electrical kettle is used and it takes one minute to heat. This is done at any time and she does not know how much it costs

She does not do beer brewing and no other hot water services are used in the household.

Lighting

Currently they use electrical lighting and before they used candles. She does not know how much it costs but believes that electrical light lasts forever. Her son did the wiring for the lighting.

Questioned whether she liked electrical light, she said unlike candle light, it is very bright. There is an outside light which helps with personal safety.

Ironing

She uses an electrical iron with an ironing board, and works in the kitchen. She does not know how much it costs and finds it better than what she used before.

Space heating

She does not have an means of space heating.

Media

She has a TV which runs off grid electricity. It is in the sitting room in the square building and she paid R1 999 for it. The TV is watched by everyone.

She does not have a hi-fi and her radio is run off electricity. She does not have a telephone.

Refrigeration

She paid for the electrical fridge (R2 000) but does not know how much it costs to run. It works on a continual basis and is kept in the kitchen for preserving food. Other people in the community use her fridge at a cost She likes the fridge because it keeps food fresh for weeks and has not needed anyone to fix it.

INTERVIEW NO 7, MQUDANDABA

HOMESTEAD LAYOUT

There are two buildings, one is an L-shaped square building and one rondawel. The homestead is situated in the village

HOUSEHOLD DEMOGRAPHICS

There are three members in this household. One adult female, another adult and one child.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income of R800 is earned by working in Colenso in a factory. The interviewee is a housewife and describes this as a poor household who eat mainly bread and vegetables. There is much litter about the homestead.

HOMESTEAD ELECTRIFICATION

The husband of the interviewee did the wiring in the house. They have no problem with Eskom and no problem with the electrical supply. The homestead was electrified in 1992 and the installation cost of the distribution box was R30. They were supplied with a lighting appliance package with a cord.

Electrification and lifestyle

The lifestyle of the household has been made easier by electrification.

Electrical appliance acquisition

The appliance that has been purchased is a two plate cooking plate which cost R120. An electrical clothiers iron was also bought which cost R45.

Other appliances

They have a paraffin wick stove that cost between R35 and R40. They use 20 litres of paraffin that costs R24.99 per month.

Unit cost payments

The user buys prepaid cards, at the value of R10.

HOUSEHOLD ACTIVITIES

Cooking

The family eat mainly bread and vegetables.

Heating water

For bathing the water is heated on the two plate electrical stove. Water for drinking and for dishwashing is also heated on the electrical stove.

She does not do beer brewing and no other hot water services are used in the household and clothes are washed in cold water.

Lighting

There is one light in each of the rooms of the L-shaped building. They use candles in an emergency.

Ironing

Electricity is used for ironing.

Space heating

She has no means of space heating.

Media

She has a radio and uses two PM 9 batteries per month that cost R7 each.

INTERVIEW NO 8, MQUDANDABA

HOMESTEAD LAYOUT

The homestead consists of three buildings, one square building with four rooms and another square building with a single room, (used as a bedroom) and a rondawel (with a central hearth). There is also an outside fireplace.

The rooms in the main building are used as follows: Main bedroom, children's' holiday bedroom used to do the ironing, a dining/living room with the TV and the kitchen room.

The homestead is located on the main road - eight minutes walk away from the motel.

HOUSEHOLD DEMOGRAPHICS

There are eight members to this household. The one adult female is a single woman and has never married heads the household. She practices as a sangoma. She has seven children, two of whom are looking for jobs and the others are at boarding school.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

She makes a living by practising as a sangoma. No other subsistence practices are recorded. The interviewee employs a domestic worker. She owns a vehicle, and gets someone to drive her around.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in the autumn of 1991. The installation cost to the household was R30.

Only the large square building has been electrified. There are electrical lights in three of the rooms, including the kitchen where there is one plug outlet, the central living room has three plug outlets and a ceiling light, one other room has a plug outlet only, and another bedroom both a plug outlet and a ceiling light. There is an outside light. The wiring was done with relay switches and conduits from the dispenser.

Description of the meter box: the standard electricity dispenser described in the first interview.

The community was responsible for the electrification problems and there is a cousin of Mr Mlhob, a Mr Mzibuko, who lives at the hotel and has contact with Eskom by phoning them to report problems on behalf of community members.

The meter boxes were installed after households had paid the R30 connection fee in Estcourt and displayed the yellow receipt numbers on their houses for the technicians to identify them.

Electrification and lifestyle

The respondent said that electricity has changed her life. She is happy as everything that she wants early in the morning like hot water and lights are easy to come by. She likes the electrical light and prefers it to candle light because with candles you cannot see as clearly.

She uses candle light when clients consult her because she prefers the atmosphere it creates.

Electrical appliance acquisition

The appliances were bought in the following order:

- An electrical iron.
- An electrical kettle (costing R60) although she mostly uses the paraffin stove for heating water.
- An electrical two-plate stove with an oven below.
- A TV operated off grid electricity (R1 500).
- An electrical fridge (R700 with delivery cost of R70).
- An electrical fan (a gift).

The household has no plans to get other appliances at present as she feels that they have got everything that they want.

But the stove gives her a shock on a regular basis. The electricity does not short when she uses the stove together with other appliances. She has to take the stove to Estcourt to be fixed, but she does not get round to it.

Other appliances

The paraffin wick stove which cost R25 and is used most often. She spends R35 on 25 litres of paraffin.

There are both an inside hearth and an outside fireplace. She spends R100 on a half-load of wood per month which she uses to save on electricity. She uses candle light when she consults.

She also has a hand operated sewing machine.

Power failures

Power failures occur when there is heavy rain and it takes 25 minutes to turn the electricity back on. She never runs out of card units for electricity and uses candles when the power fails.

Unit cost payments

The user buys prepay cards to the value of R20 per month and buys a new one as soon as the old one runs low. She never runs completely out of cards and uses electricity mainly for lighting.

HOUSEHOLD ACTIVITIES

Cooking

Cooking is done on the paraffin stove .

For breakfast, tea and bread is eaten, and she uses the paraffin stove or the electrical stove for preparing this. The kettle is used to make tea.

For lunch/daytime snacks, she makes soft porridge on the paraffin stove mostly for the children when they come back from school.

for the main meal of the day (supper), she has a specific meal for every day of the week, rotating the use of meat, chicken, and beans. On Mondays she always makes curry and she always makes porridge.

Heating water

For bathing, drinking and dishwashing, the water is heated

She does brew beer and uses the wood fire to heat the water. This is done for a feast. She does not use hot water for clothes washing.

Lighting

Currently they use electrical lighting although before she got lighting for free from her neighbour. There are lights in the dining room, kitchen, one bedroom and an outside light.

Refrigeration

She does have a fridge and it is used only by the interviewee.

INTERVIEW NO 9, MQUDANDABA

HOUSEHOLD DEMOGRAPHICS

There are seven members in this household. There are four adults and three children in the household. The children are the Phumalanga higher primary school.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income is earned by the mother selling vegetables and food in front of the Bata shoe factory.

HOMESTEAD ELECTRIFICATION

Prior to electrification the household used paraffin. The homestead was electrified in 1991 and the installation cost was R30. The electrification program was announced to the community and houses were given numbers, after which the distribution boxes were installed.

The meter box was installed in the building and additional plugs were installed in the other buildings as well as lights, by the interviewee's brother. The house has three rooms, all have electrical light fittings.

Electrification and lifestyle

Electrification makes it easy to do ironing, while the lights and fridge all make all household tasks easier.

Electrical appliance acquisition

Appliances acquired:

- Electrical stove, consisting of two cooking plates on a little oven.
- Electrical kettle (cost R60).
- Electrical clothes iron.
- Electrical fridge (cost R700), that was delivered from Estcourt for R70.
- There are two radios that are both out of order.
- TV that cost more or less R1 500.
- There is a Hi-fi set.
- There is a fan that she received as a gift.

The interviewee's brother installed the plugs and the lights.

Power failures

Power failures occur when there is wind or lightning. The use of electricity is interrupted when there is a broken iron or kettle, otherwise she never had any problems.

Other appliances

The wood fire is used to save money on the electricity card. There is a hearth in one of the homestead buildings and it is used to work from as well as an outside fireplace. Wood is bought from the motel and costs R100 for 'half a load'.

The household has a paraffin wick stove and uses it most often. The stove cost R25. The paraffin costs R35 for 25 litres. From the matrix information it seems that the paraffin stove is used mostly for heating water and not the electrical kettle, and that for ironing, the paraffin stove and not the electrical iron is used.

There is a manual sewing machine. The interviewee also owns a vehicle (but does not drive it herself).

Candles are used in the outbuildings when there is heavy rain and one packet is used per month.

Unit cost payments

The user buys prepay cards, with a value of R20. They do not use too much electricity apart from lights. The cards are bough from Eskom at the local motel or in Estcourt.

HOUSEHOLD ACTIVITIES

Cooking

Cooking is done on the paraffin stove.

Breakfast consist of tea and bread, which she cooks on the paraffin stove.

for the lunch/daytime snacks, pap is eaten.

The main meal of the day (supper) is stew, made by the young girl.

Heating water

For bathing, one kettle full of water is heated on the paraffin stove. No other hot water services are used in the household.

Lighting

They use electrical lighting and candles.

Refrigeration

She does have a fridge.

INTERVIEW NO 10, MQUDANDABA

HOMESTEAD LAYOUT

There are two buildings to the homestead - one large building with three rooms in an L-shape and one square outbuilding.

The homestead is located fairly close to the High School in Loskop (even though the respondent's eldest child chooses to go to a high school much further away), along the main foot path between the motel and the high school.

HOUSEHOLD DEMOGRAPHICS

There are three people who stay in the household during the week. This includes the mother (respondent) and two of her three children. Two to three times a year, during the holidays, one adult male (the respondent's husband) who works in Johannesburg in a factory, returns to the homestead. Their eldest child returns to the homestead during the school holidays.

Thus, in total, the family consists of five people.

The two younger children are at a local primary school - Mpumalanga Primary School, while the eldest child is away at a high school, which is too far to commute to. The parents thus pay board and lodging to another family to look after this child.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

The interviewee receives a remittance from her husband and does not have any control over when this arrives from him. She is required to wait until he sends her money. The remittances are her only source of income and does not do any income generating activities herself. She does however, take full responsibility for child care.

This household is totally dependant on the cash sent home by the absent male household head, but seemed to feel confident about eventually receiving it.

He sends her bulk money and does not specify what it is for, although she says it is to run the household expenses. She does not pay for all the electricity used, as she sometimes waits for her daughter to pay for a new electrical unit card.

HOUSEHOLD ELECTRIFICATION

The homestead was electrified in 1994 and the installation cost was R30. A community representative had been to see Eskom in Estcourt, and a half a month later the electrification was done. There is one distribution board, which is located in the kitchen. The interviewee chose this location.

The respondent has experienced problems with the installation and connection of the meter box. The first meter box installed by Eskom in 1994 would trip if she used too

many appliances. After six months she complained about the old meter box and Eskom replaced it at no extra cost. Thereafter, she could use as many appliances as she wanted, without it tripping. (A different level of supply had been given to private Eskom customers in this area before, but it was clarified that she had not been a customer prior to the 1994 electrification program.)

The main building has four electric lights. Three are inside, one in the kitchen, one in the lounge and one in main bedroom. There is also an outside light to the front of the house and lawn. The wiring for these lights was done by her son and comprised switch relays and ceiling fittings (more than just an extension cord with a light socket).

Additional plugs were installed in the dining room and one in each of the three bedrooms. Thus, electrical appliances could be used in various rooms, not just the kitchen at the DB plug outlet. She spends a total of R40 a month of cards for her DB.

Electrification and lifestyle

The respondent said that she prefers electricity because it is easier to cook and saves time.

The ironing is also easier now and she also prefers electricity because the children can study.

Questioned on her opinion of electricity and her expectations, the interviewee responded that she wants a lawn mower as she stays alone and has to mow the front lawn, and also that she would like to have a sewing machine (at present she has a broken hand sewing machine). On the whole, everything that she expected from electricity has been granted.

She felt that the use of electricity was much cheaper than buying coal and wood. Furthermore, with the purchasing of the electric cards, she found it much easier to budget for her fuel consumption.

Electrical appliance acquisition

Prior to 1994 she did not have any access to electricity, although she did start to think about buying appliances before that, as she knew it was almost her turn to be electrified.

The lighting and additional plug points in each room of the main structure was installed by her son. The following electrical appliances are owned:

- A two-plate electric hot plate (which cost approximately R130 from the OK Bazaar's in Estcourt).
- An electric heater (which was a gift from her son).
- An electric kettle.
- An electric iron.
- A mini Hi-fi system.
- A colour television run of grid electricity.

She could not remember the cost of most of her appliances. The first household electric appliances which were purchased was the two-plate cooking plate. The second was the electrical iron; third was the electrical heater; fourth was the electrical kettle; fifth was the television; and the last electrical appliance was the mini Hi-fi/radio unit.

At first she said she experienced no problems with any of her electrical appliances. However, this opinion changed after probing the issue a bit further as she had ascribed a problem she had with her distribution box to faults with the appliances themselves. The first meter box installed by Eskom in 1994 would trip if she used too many appliances. After six months she complained about the old meter box and Eskom replaced it at no extra cost. Thereafter, she could use as many appliances as she wanted without it tripping.

She does not need anymore appliances, except an electric lawn mower.

Other appliances

- A wick paraffin stove (the cost of which she forgot as she bought it so long ago).
- A broken hand operated sewing machine.

Candles are used for lighting the other dwelling unit (the square outbuilding) on nights when it was occupied by the visiting household members. Candles are also used when there is heavy rain. (Presumably this is in the main building.)

The paraffin wick stove is used often.

There are only three fuels which she uses in the household: electricity, paraffin, and candles.

She spends R1,90 on a litre of paraffin, but said that she has not used the paraffin wick stove too much. However, upon reflection she said that she does actually use the wick stove for most of her cooking.

The candles are only really used when there are heavy rains, as that is when the electricity cuts. However, candles are also used in the holidays when the migrant returns and the high school child returns, as then the smaller single sleeping quarter is opened up to make space for the additional people.

The respondent said that she never uses wood, coal dung, mealie cobs for fires. Her homestead does not even have a place for a fire, either inside or outside. Furthermore, she does not have a gas cylinder and does not see the need to use gas.

Power failures

Power failures occur when it is windy or there is a thunderstorm which happens very rarely. The interviewee also mentioned rain in connection with power failures.

Unit cost payments

The user buys prepay cards valued at R30 per month and then an extra card for R10 as they have a lot of appliances.

She felt that she had more appliances than the average household in the community. The money for the card comes from the bulk of money her husband sends to her periodically. He sends her bulk money and does not specify what it is for, although she says it is to run the household expenses. She does not pay for all the electricity, as she sometimes waits for her daughter to get a new one.

She uses as much electricity as she wants to, as electricity is cheaper than buying coal and wood, which are both difficult to budget for. However, she said later in the interview that she usually cooked on a paraffin stove rather than the electric two plate - probably to save money.

She does not obtain free electricity and there are no means to do it. She is unaware of any way to get free electricity and said that with this system there was "no way to do [by-pass] it".

Electrification education

The only electrification education which she received from Eskom was that she should never touch the DB. Furthermore, she was told never to touch the electrical cords with wet hands, although the reasons for these rules were not explained to her.

Relationship between household and Eskom

She was happy with Eskom, particularly as they were very efficient in replacing her first DB when it was faulty.

She said that Eskom were quick to install the DB, approximately a month and half after she first decided to get electricity. She said that her section of the community were part of one of the later areas in Loskop to be electrified. For many years previously, there were people who had seen electrified. She waited, like her neighbours for her turn to be electrified.

Domestic energy services

The respondent said that she obtained all the following services using electricity: cooking, heating water, space heating, lights and media. (However, the unit usage and the usage of other appliances indicate that this is not exclusive electrical use.)

HOUSEHOLD ACTIVITIES

Cooking

She mainly uses her wick paraffin stove. She uses electricity for other activities, but avoids cooking. She implied that it was too expensive to use electricity for this

purpose. Perhaps this is because it is a long process. Previously the activity of cooking was done on the wood fire and it was a difficult and timely process. Now with electricity, much time is saved.

For breakfast, tea and bread is eaten.

Lunch/daytime snacks consist of soft porridge made for the children.

The main meal of the day (supper) is porridge and meat is also prepared for this meal.

Heating water

She heats small quantities of water for body washing in the kettle whenever someone wants to wash. She did not specify at what time of day this happened. Water is also heated for tea at breakfast time (usually just enough for three people). The washing of dishes and clothes is done in cold water.

Lighting

As previously mentioned, there are two building structures which comprise the homestead. Only the one structure is electrified with an electric light in each of its three rooms: the kitchen; the lounge; and the main bedroom. There is a fourth light which is located outside the main door of this building structure at the kitchen.

Candles are used for lighting in the other dwelling unit (the rondawel) on nights when it was occupied by the visiting household members.

The respondent uses an electric light for each of the rooms in the main structure. These lights are always on in the evening if someone is in the room. The children study at night using electric light.

Ironing

The respondent uses an electric iron and usually irons in front of the television. Daily, she irons two white school shirts and one of her own dresses. This is fairly quick with an electric iron.

Previously she used a solid iron which she heated on a paraffin stove, which she had to be careful with as it dirtied the clothes. She had to heat the iron twice on the stove to do a school shirt properly. She felt that she had a large amount of washing as she needed to wash her children's white school shirts daily.

Space heating

The family have an electric heater, which they use when it is cold. She said that they only put it on for small periods of time.

Media

The family have a television and a mini Hi-fi. The women said that she irons in the evening while she watches television. During the day she does not listen to much radio as she is often in the yard. When the interviewee arrived, the respondents was hanging up her washing. At other times she tends her mielie patch. She complained about the poor, water-logged soil that made it difficult for agriculture..

Refrigeration

The respondent does not own a refrigerator and merely places the food in a cool place to stop it "going off" to quickly.

INTERVIEW NO 1, MSWELENI

HOMESTEAD LAYOUT

The homestead consists of two buildings: one square building with three rooms (bedroom, dining room, kitchen) and a separate rondawel which is used as a bedroom. The homestead is situated in the settlement.

HOUSEHOLD DEMOGRAPHICS

There are five members to this household. Two children attend school and the third is still too young. The father is a migrant worker in Johannesburg and the mother is the functional head of household.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income of R400 is remitted by the father from Johannesburg.

HOUSEHOLD ELECTRIFICATION

Description of the meter box: The standard electricity dispenser as described in the first interview. The cost quoted by the respondent was R45 for installation of the electricity dispenser.

The household was electrified in 1995 and the meter box is in the kitchen and each room in the main building has a ceiling light. There is no electricity in the rondawel and there are no additional plugs.

Electrification and lifestyle

The respondent said that electricity has provided them with lighting, cleanliness and safety.

She thought that lights were cheap but that all other electrical services including media were expensive.

She would like to get from electricity safely and at cheap prices. Questioned, she responded that electricity does save time and is faster and cheap and compared to other fuels it is very clean, healthy and convenient. In her opinion, electricity is not dangerous and is the quickest to use.

Electrical appliance acquisition

The lighting was installed by the father. The household use R20 worth of pre-paid electricity units per month. The first and only appliance that was bought was the electrical iron which cost R80 and was paid for by the father.

The household members make use of hired transport for themselves and their goods. To transport and repair appliances may cost up to R100.

In addition to these appliances she would like to have the following electrical appliances: a stove with an oven, a fridge, a heater, a kettle and a TV. She would also like to have hot water from a tap.

Other appliances

The household spends R50 per month on wood, R30 on paraffin and R8 on candles.

There is a wick paraffin stove (cost R30). A fire is made in the inside hearth and in the outside fireplace. There is a space heater that cost R50 and is used with wood.

There is a radio that had cost R70 and is used with dry-cell batteries. There is a also a kettle (cost R39) that is used on the wood fire.

Power failures

Power failures occur when there are heavy rains, wind and lightning. The household has never run out of electricity cards. When there is a power failure, candles and all the other appliances are used.

They have not had a problem with the meter or the wiring and have not had to get repairs done.

Unit cost payments

The user buys one prepay card, to the value of R20 per month. The money comes from the father and the mother does the buying. The card is bought either in Estcourt or at the motel, but the respondent would like to buy it at a local shop. They pay for all the electrical units they use and do not get any for free.

Electrification education

She did not get any information from Eskom on the user safety of electricity.

Relationship between household and Eskom

She does not know about any relationship with Eskom and has never communicated with them since the installation.

Domestic energy services

The respondent and her older child are in control of electricity use in the homestead.

HOUSEHOLD ACTIVITIES

Cooking

For breakfast, bread and tea is made in 15 minutes. The wick paraffin stove is used because she does not have an electrical stove.

Lunch/ daytime snacks consist of Phutu and cabbage which takes one hour and 25 minutes to prepare on the wick paraffin stove.

The main meal of the day (supper) consists of curry and rice or Phutu with bean curry. This is started at 15:00 and the meal is eaten at about 18:15 so it takes about two hours and 20 minutes to prepare.

The cooking is done by the mother and older children. The wick paraffin stove and sometimes the outside or inside fire is used. Paraffin consumption costs about R30 per month. The paraffin and fire are used because she does not have electrical appliances.

Heating water

For bathing the water is heated on the wood fire in the house or outside using a big pot and the wood-fire kettle. This is done in the morning and in the afternoon and takes about 45 minutes. Washing is done in the bedroom and the toilet.

Water for drinking is heated on the paraffin wick stove and this takes about 20 minutes - it is done in the morning and in the evening.

For dishwashing the water is heated on the wood fire either inside or outside.

She does beer brewing and the open fire outside the homestead is used. The whole process takes about three to five days and big pots are used.

Lighting

Both electricity and candles are used for lighting. The candles cost R8 per month and the electricity use amounts to R20. The lights are used in the kitchen, dining room and bedroom and it is used in the morning between 5:00 and 6:00 and in the evenings between 18:00 and 21:00. The lights were installed by the father and there is no outside light so they cannot say that it contributes to their safety.

What she likes about the electrical light is that it is easy to see, along with the safety factor and the brightness.

Currently they use electrical lighting and before they used candles.

Ironing

She uses the electrical iron and an ironing board. This task is done in the kitchen by the wife and the older child. It is better than what she used before because it is clean, healthy and safe.

Space heating

Wood is used for space heating, but a fire is not made in the hearth for heating.

Media

The household has a radio that works very well, but they do not have a TV, Hi-fi or a telephone.

Refrigeration

They do not have a fridge or freezer.

INTERVIEW NO 2, MSWELENI

HOMESTEAD LAYOUT

The homestead consists of six square buildings and an outside toilet. There has been a problem with one of the buildings and they built an additional one to replace it. The homestead is situated in the settlement.

HOUSEHOLD DEMOGRAPHICS

There are eight members in this household. Sipiwe is 47 years old, has a standard six education and is a taxi driver. He earns R150 per week.

Nomusa is 44, has a standard five education and earns R200 per month. Patrick is 22, has a standard ten education and earns R200 per week doing casual work. Sidowe is 18, has a standard ten education and is unemployed.

There are three more school going children and Guta is the grandmother and has a pension income of R410 per month.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

A total income of R1 600 is earned by the various household members and in addition the grandmother gets a pension of R410.

The interviewer does not mention any rural subsistence strategies practised by the household and the above mentioned income is all there is.

HOMESTEAD ELECTRIFICATION

The homestead was electrified in March 1995 (one year prior to interview). Each electrical dispenser box cost them R45 (total of R90).

There are electrical lights in five of the buildings. Two have a separate meter box with plug-outlet. The room that is used as a kitchen has no meter box or plug outlet but it has electrical lighting.

The older children did the wiring for the lighting and it cost the household R120 and the plugs they use are those supplied on the electricity dispensers.

They would like to move one of the meter boxes to the kitchen, and the meter box does show the amount of units consumed. They would also like to have more plug outlets.

Electrification and lifestyle

The respondent said that electricity has altered their lifestyle in as much as the lighting is good and they can work at night. The electricity is quick and easy to use.

Electrical appliance acquisition

The lighting was installed by the older children in the household.

Electrical appliances were bought in the following order:

- First a radio, with dry cell batteries, paid for by Patrick who does casual labour (a cash purchase of R40).
- The second was a Hi-fi also bought by Patrick (cash purchase R1 200).
- The third appliance was a iron bought by the father (cash purchase R100).
- The fourth appliance was an electrical kettle bought by the father (cash purchase R89).
- The fifth appliance was a TV bought by the father (cost R300).

The kettle and clothes iron seem to have been purchased immediately as they are reported to be one year old already.

The household plan to buy the following electrical appliances, using a credit facility: In May they will buy a two-plate stove for R100, in November they will buy a fridge for R2 000 and in the following year they will buy a heater for R100.

When there are appliances that need repairs, Patrick pays for these. There has been a problem with the Hi-fi set but they do not know what it is. There is someone in Estcourt who can fix the radio if necessary.

The household have never had large appliances brought to the homestead and thus do not know about the possible costs involved.

Other appliances

There is a coal stove with oven in the kitchen which is 10 years old and still in use. Wood costs R60 and coal is bought four times per month costing R24 (total R96).

There is a brazier used for space heating and it is used with both wood and coal and the cost of fuel is included in the above total.

There is a wick paraffin stove that was bought a year ago (time of electrification) and that cost R26. The cost of paraffin is R22 for 20 litres per month.

Four packets of candles are also used per month.

There is a gas cooking plate that cost R80 and was bought five years ago. The gas costs R24 and is bought twice a month (total R48).

There is a solid iron used for ironing which is heated on the paraffin stove. The household also has a hand operated sewing machine and owns a car.

Power failures

Power failures do not often occur. However, raining shorts out electricity which also fails when there is a lightning storm. Paraffin and candles are used when there is a power failure and gas is used for cooking. They do not watch TV when there is no electricity.

The household often runs out of electricity cards as there is no money to buy cards.

Unit cost payments

The user buys two prepaid cards per month, each with a value of R20 (total R40). Patrick who does the casual work, pays for the cards. They often run out of cards as they do not have the money to buy more cards.

They buy the cards at the motel or a place called Libra. However, they would prefer to buy them at KwaMguni store which is closer and would be better especially when there is a card failure.

The mother is responsible and in control of the electricity use in the house. They do not get free electricity by by-passing the system.

Electrification education

She had been given information from Eskom on the use and safety of electricity.

Relationship between household and Eskom

There had been an open-air meeting with Eskom about electrification and there are sometimes Eskom officials at the motel. If households have a problem with their electricity they can go there to see them. They have no problem with their relationship with Eskom or with the electrification and installation of the electricity dispenser.

Domestic energy services

Lights and media are seen as cheap service, while heating water and cooking are expensive.

HOUSEHOLD ACTIVITIES

Cooking

Breakfast consists of porridge, tea, bread and eggs. The gas stove is used to cook the porridge and the eggs, and the electrical kettle is used to make the tea. The reason for using gas and electricity is coal is too expensive. The electricity is better because it is faster.

Lunch/ daytime snacks consists of cabbage, beans, rice, phutu and samp. These dishes are prepared on the gas or paraffin stove.

Main meal of the day (supper) consists of rice, puthu, home-made bread, samp and meat. This is done between 16:30 and 17:30 in the afternoon and gas and paraffin are used for cooking. The older children prepare this meal and in the winter the coal stove is used for cooking as well as space heating.

Heating water

Water for household use is fetched from the community stand pipe and carried home. The school children do this when they get back from school and it takes about two hours because they have to queue to get water.

For bathing, 20 litres of water is heated in the kettle because it is cheap, quick and better. This is done in the morning and in the evening. Water-heating is done by various members of the household and the washing takes place in the bedroom.

Water for drinking is heated using the electrical kettle and two kettles full are enough for the whole family. This is done in the morning, midday and the afternoon. The use of the electric kettle is seen as cheap.

For dishwashing the children boil two kettles full of water using electricity because it is cheap.

She does do beer brewing on a wood fire on the inside hearth and it takes half an hour and uses R10 worth of wood. Old black pots are used and 20 litres of water is heated.

Water is also heated for clothes washing. She heats 20 litres on the paraffin stove and washes while the heat is on if it is cold outside. However, if she uses wood she must keep feeding the fire while she is washing to keep the water warm.

Lighting

Currently they use electrical lighting and candles for backup. Before electrification they used candles. The lights are used in the evening between 18:00 and 21:30 for studying, sewing and sometimes for cooking. The interviewee thinks that the electrical lighting may cost them less than R10 per month.

There is no outside light at the homestead. The respondent said that electrical lighting is good because it is bright and lights up a large area. It is bright enough to do sewing and to see small holes.

Ironing

The household uses both the electrical iron and the solid iron which is heated on the paraffin stove. Ironing is done by the mother in the dining room on a Tuesday and a Saturday afternoon.

The electrical iron is said to be quick, safe and has no problems with the adjustment of temperature. No further mention is made in the interview of the interchange of paraffin and electricity use for ironing.

Space heating

The stove and fire in the hearth are used in the kitchen to provide space heating, and they sit around it when it is cold. When they get the electrical heater it will be used in the bedroom.

Sometimes the expenditure on coal and wood doubles in winter and they buy R48 worth twice a month.

Media

The TV set is run off grid electricity and is situated in the dining room where everybody in the home watches between 18:00 and 21:30 in the evening. The father paid for the TV and is also responsible for repair costs.

The Hi-fi set is broken and the radio is run on batteries and is played any time during the day. The household does not have a telephone.

Refrigeration

The household does not have a fridge but they use the neighbour's fridge to store meat. Prior to the electrification of the area they had also stored goods in a neighbour's gas fridge and had to pay R36 per month for the service. Now that the fridge is run on grid electricity they get the service for free.

INTERVIEW NO 3, MSWELENI

HOMESTEAD LAYOUT

The homestead consists of four square buildings, a chicken run and an outside toilet. It is situated in the settlement.

HOUSEHOLD DEMOGRAPHICS

There are eight members in this household. Four are adult women and the male head of household works in Johannesburg in a furniture shop. One of his sons is also with him but is unemployed. There is one other boy and one other scholar in the household.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income is remitted from Johannesburg by the interviewee's husband. The mother (interviewee) also earns money by making sweets and selling them at the schools.

The household do not practice other subsistence activities but have a garden at the house where they employ someone to do the weeding. They also have chickens.

The money that her husband sends her from Johannesburg is used for the expenditures on transport, food and schooling. The household has an insurance policy because of the violence in the area and the monthly payment of R150 also insures them against theft of the stove.

The interviewee has two homes as she spends December, June (holidays) with her husband in Johannesburg and the small children stay with the older 21 year old child who is in standard nine.

HOUSEHOLD ELECTRIFICATION

The household was electrified in 1995 (probably in June/July) when the whole area was first electrified. The installation of the electrical dispenser cost R50.

The wiring of the homestead was done by one of the neighbours for free. This person had learnt to do it at school but did not have a certificate and had also put the plugs onto the appliances. They use the plug outlets that are available on the electricity dispense box.

The electrical dispenser is in the kitchen which is seen as satisfactory because it is where all the appliances are. Eskom had asked her where she wanted it and this was the agreed position.

The distribution box and its wiring have never broken down

Electrification and lifestyle

The respondent said that electricity has changed her lifestyle in as much as it is easy to cook and she does not have to use the paraffin stove. She said that electricity made it easy to do things like cooking, ironing and making tea. It is also clean and easy to use.

Electrical appliance acquisition

The household have the following electrical appliances:

- An electrical four-plate stove with an oven which was bought for R1 500 and cost R3 000 when the costs for delivery, installation and insurance had been added.
- An electrical kettle which was bought in Estcourt and cost R199.
- An electrical steam iron which was bought in Johannesburg and cost R99.
- A fridge which was bought in Johannesburg, this was second hand and her husband brought it himself.
- A Hi-fi system.

These appliances were bought in the following order: First the stove, second the Hi-fi, followed by the kettle and iron. The household have no immediate plans to buy more electrical appliances but would like to have a heater.

None of the existing electrical appliances have given any trouble and they rely on the neighbour to fix the appliances. The lighting was installed by the neighbour.

Other appliances

Prior to electrification the household had a TV (run off car a battery), radio and a fridge.

The household has a paraffin wick stove that is used when electricity runs out every month. The stove cost them R20. The paraffin costs are about R12 per month and is bought in quantities costing R3.

There is a wood stove that is used when they want space heating (coal is used in it and they spend R12 only if it is cold). They do not use this for cooking as it is too slow.

They use the outside fireplace to make Amahewu using wood fuel. The wood was bought from a seller who comes round with his tractor and they paid R150 for a pile of wood in December which they expect to last until the end of April.

There is a hearth in one of the other buildings (not the one currently used as the kitchen).

Power failures

Power failures occur when there is heavy rain and lightning. The primus stove is used when this happens, along with candles and they do not use the TV but listen to the radio.

The family runs out of pre-paid electricity units once a month (this is described as rarely).

Unit cost payments

The interviewee who is the functional head of household pays for the purchasing of electrical units out of her own income from selling sweets. When she is making sweets she buys four cards per month each to the value of R20. The pre-pay electricity cards are bought in Estcourt. It costs her R6 to travel to and from Estcourt and she would prefer to buy the cards from the local shop which is 100 meters away from the homestead.

She pays for all the units used and does not know of a way to get free electricity. Anyone in the house can use the electricity as she has no rules to control the use of it.

The dispenser shows the use of the units and she can see the numbers. She knows (not from the meter display) that the stove and kettle use the most units.

Electrification education

She did not get information from Eskom on the use or safety of electricity. However, her neighbour warned her that the children should not touch the extensions.

Relationship between household and Eskom

Eskom had called a community meeting at the school and again two months later, thus establishing that the community wanted electricity and the electricity was installed. She is happy about electricity but some community members did not want electricity, although now they do want it.

The Eskom personnel drive around in the community and they know if they have a problem they can tell Eskom and they will come to fix it. Her neighbour had a problem with a plug and Eskom fixed it.

Domestic energy services

She said that lights and media were not expensive using electricity but that the use of electricity for cooking, hot water and a fridge was expensive. She would like to have hot water from a tap.

HOUSEHOLD ACTIVITIES

Cooking

She prepares breakfast very early at 5:00 to be ready by 6:30 because the children have to leave to go to school. The one girl takes a taxi to go to Estcourt. She makes porridge on the electrical stove and tea using the kettle. Prior to getting electricity she had used the paraffin stove.

For lunch/daytime snacks they have bread and tea as they only cook in the evenings.

The main meal of the day (supper) is at 19:00 after the news. She starts cooking at six. A large variety of dishes are made. Stiff pap (phutu) is made as well as cabbage and rice or curry and rice. It takes an hour to cook phutu. During the week the mother does the cooking and at the weekends the child who is in standard nine helps. The electrical stove is used for this cooking and is convenient because she uses all her pots.

Heating water

For bathing the water is heated using the electrical kettle but the paraffin stove is also used when the electrical units run out. She has to heat the kettle many times repeatedly. This is done in the morning and in the evening. She uses the kettle because it is cheaper than using the pot on the stove, the kettle is faster and the fire is slow. The water for bathing is heated by anyone in the household.

Water for drinking is heated using the electrical kettle but the paraffin stove is used when the electrical units run out. This takes 10 minutes. It is done in the morning, twice during the day and in the evening.

For dishwashing the water is heated on the paraffin stove.

She brews beer when there is a function, and uses the outside fire. Hot water is also prepared for the use with the baby.

Lighting

Currently they use electrical lighting and before they used candles. They still use candles when they go to sleep. There is no outside light.

Media

The radio was bought for R150 in Johannesburg by her husband and the batteries cost R10 per month. They also have a black and white TV that was bought by her husband in Johannesburg for R250. There is a Hi-fi system that was bought in Johannesburg.

The household has a telephone but it is not working and she would like to switch to a new system.

INTERVIEW NO 4

HOUSEHOLD DEMOGRAPHICS

There are six members to this household. One adult female, aged 40, one adult female of 23 (Zandile) and four small children between the ages of 11 and six years.

HOUSEHOLD INCOME AND LIVELIHOOD STRATEGIES

An income of R800 is earned by the mother working at the Bata shoe factory

HOMESTEAD ELECTRIFICATION

The homestead was electrified in 1993. The installation cost to the household was R35. No additional plugs were installed. The house has two rooms, both have electrical light fittings and the meter box is located in the kitchen. The respondent expressed no desire for it to be elsewhere. There had been no problems with the installation and connection of the meter box.

Electrification and lifestyle

The respondent said that electricity saves money. The crime rate has dropped and cooking is easy and quick.

She would like to get cleanliness and safety from electricity use and she thinks that electricity saves time and is very clean in comparison to other fuels.

Electrical appliance acquisition

The lighting was installed by her son. The first and only appliance that has been purchased is a two plate cooking plate which cost R149. This appliance does not give any trouble. The household has no plans to get other appliances at present.

Power failures

Power failures occur when there is too much wind or a thunderstorm which happens very rarely. The paraffin stove and candles are used when there is a power failure. She does not know who would fix the distribution box and the wiring.

Other appliances

The household has a paraffin pressure stove and use it when there is a power failure. Later during the interview it became clear that the paraffin stove is still used on a daily basis.

Unit cost payments

The user buys two prepay cards per month each with a value of R10. The mother who is the income earner and household head, pays for the cards. The cards are bought at a local motel which she finds convenient because it is very close by.

She does not obtain free electricity by any means. She is in charge of electricity use in the house and has not noticed that the meter displays the amount or rate of units consumed.

Electrification education

She did get information from Eskom on the use and safety of electricity.

Relationship between household and Eskom

The respondent said that there is a formal relationship with Eskom. She said it is easy to communicate with Eskom because they are always around the area.

Domestic energy services

The respondent said that cooking, heating water and space heating were expensive to have electrified, and that lights and media were cheap. She would not like to have hot water form a tap or large hot-water drum.

HOUSEHOLD ACTIVITIES

Cooking

Cooking is done on the paraffin stove because it is cheap.

Breakfast consists of tea and bread, and she uses the paraffin stove for this because it is cheap.

For lunch/daytime snacks, potato curry and phutu are eaten. This is cooked on the paraffin stove which costs less than R1.

The main meal of the day (supper) is curry and rice which is started at about 15:00. It takes about one hour to prepare. The paraffin stove is used to prepare this and it is done by anyone in the household.

Heating water

For bathing the water is heated on the paraffin stove because it is cheap. She heats three kettles full. They bath at any time and any member the household does this task..

Water for drinking is heated at any time of the day, and the paraffin stove is used. She does not use electricity. For dishwashing the paraffin stove is used to heat water. It costs less than R1.

She does not do beer brewing and no other hot water services are used in the household.

Lighting

Currently they use electrical lighting and before they used candles. There are lights in both rooms and anybody uses it. She does not know how much it costs. These were installed by her son of 11 years.

Questioned about whether she liked electrical light she said it is very bright. There are no outside lights.

Ironing

She uses the paraffin stove for ironing and does it on a daily basis. It is done by any of the adults in the household. She says that it costs less than R1 per session

Space heating

She does no space heating.

Media

She has no TV or radio.

Refrigeration

She does not have a fridge although she would like a fridge because it can keep food fresh for weeks.

DIFFERENCES IN ELECTRIFICATION OF TWO AREAS NEAR LOSKOP

In some of the homes in Loskop, particularly those that had just received electricity (between July and December 1995), most people only used the plug outlets on the distribution board.

It is important to note that the type of DB board received in 1994 could differ from those the community received in 1993 (in a earlier electrification phase). The respondent said that she did not think the electricity [supply and DB] was any different from the rest of the community. She experienced no problems with the simultaneous use of many appliances with the DB installed in 1994, but prior to that other people in the community may have, as it would perhaps cut out if too many appliances were used at the same time.

(A different level of supply had been given to private Eskom customers in this area before, but it was clarified that she had never been a customer prior to the 1994 electrification program.)

**APPENDIX 9:
PARTICIPATORY RESEARCH EXERCISE III**

**THE POST-ELECTRIFICATION
OF LOSKOP**

**Land and Agriculture Policy Centre
5 June 1996**

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PARTICIPATORY RESEARCH ACTIVITIES

5 June 1996 at Mqedandaba

One of the major aims of this research was to improve the understanding of the impact of electricity on rural households, their livelihoods and planning processes in order "to improve the quality of life of the people concerned"¹ Furthermore it is assumed that access to energy and electricity is contingent upon power relations, the most obvious of these being gender relations at the households level. "Obvious" here does not refer to conspicuousness, but rather to the debates and wealth of literature that have become part of development studies. Stated baldly the theory is that gender relations affect access to resources in favour of men and that this is inequitable. Thus if gender relations could be better understood then access to resources, in this case energy, and electricity in particular, could be better understood and access could be made more equitable. This can clearly not be done without the understanding, willingness and insistence of the women involved and the co-operation of the men.

Gender relations inhere complex layers of power and control and the "findings" from this workshop constitute only a first level of analysis. Fieldworkers need to spend more than a day or two with people in the community in order to begin to understand the complexities of power relations.

Fourteen adults, seven of whom were women and seven men participated in this third participatory workshop at Mqedandaba. It was designed with a particular aim in mind: to explore the social relations and power hierarchies at the village level and gender relations at the household level. This was not done in the abstract but an attempt was made to relate these relations to an understanding of their impact on access to, and selection and payment of the various energy sources available.

The aim of the workshop overall was for each participant to construct a complex visual representation of the role of energy in his/her life and the relationship of energy to other factors and material resources.

To this end four activities were designed:

a. A very basic, one page, form requesting biographical information had to be completed by each participant. People helped each other complete the survey. This provided a check that the information was correct and endorsed (or otherwise) two questions which required a formative evaluation. One of these asked about wealth of the participant relative to others in the village. This was considered important for assessing income category, independence in decision making, and access to appliance buying. The second asked what it meant to be a man or a woman in Loskop in 1996. The latter offered some insights into the perceptions of gender roles in the community. An exploration of gender roles at household level was included in the second activity.

b. The second activity explored through individual drawings the nature of household relationships, the forms of energy used and with which appliances, and each member of the household's relation to these. The results of these first two activities were equivalent to an

¹LAPC's proposal to EDRC 23.01.96