Knowledge is power: Empowering households with Energy information

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Nomawethu Qase
Samkelo Blom
Anthony Mehlwana

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PREPARED FOR THE DEPARTMENT OF MINERAL & ENERGY AFFAIRS BY:

Energy and Development Research Centre
University of Cape Town
Private Bag
RONDEBOSCH
7700

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1. Introduction

The results of most energy research are hardly accessible where they matter most - to the end-users, especially low-income households. On one hand, energy reports are specifically written for policy-makers in a language and terminology which is complex and foreign for a lay person to understand. On the other, there is a necessity that such energy information be made available to users in an easily comprehensible language. In contrast to current household energy policy which claims to promote social equity and encourage energy efficiency at household level, it is ironic that many households do not have sufficient knowledge of the energy sources and appliances they use. For instance, basic questions often asked by end-users suggest a lack of information which - in the spirit of equity and user-friendly energy policy - households are entitled to have. Some of these questions are as follows.

- 'What is this SABS mark that you often talk about?'
- 'What is the difference between a 100 watt and a 60 watt bulb in terms of electricity saving? (Or, I just send my child to buy any bulb available in the shop.)'
- 'How can I count the units of electricity that my household consumes?'
- 'Which appliances consume much energy?'

The questions that end-users need answers to are not limited to electricity. They are broad and include other energy sources such as gas and paraffin. These questions are analysed in sections 4 and 5 below. Suffice to say that although answers to the above questions are available in various energy research reports, books and articles, this information is not available to the majority of low-income households. Moreover, it seems that various energy campaigns which are designed to fill this void have not yet reached most of their intended audience. For instance, Eskom's 'Electro-Wise' campaign which is supposed to promote electricity efficiency is unheard of in some areas such as Khayelitsha. Even in cases where such campaigns are present, they are ineffectual in that they do not allow a two-way interaction where end-users ask questions, and debate among themselves issues pertinent to their daily use of energy.[1]

1.1 Aims

It is against this background that the Social Determinants of Energy Use (SDEU) project has initiated a series of workshops in South Africa's black townships near major cities, first with households and secondly with households and service

[1] Another example of these ineffectual intervention strategies, is the paraffin safety cap campaign in Joe Slovo. The research team attended a Paraffin Safety *Indaba* in August 7, 1995. This workshop dealt mainly with paraffin poison on children. One of the resolutions of the workshop was that BP will distribute paraffin safety caps and labels to communities through NGOs working at grassroots level. Because of our involvement in primary research, we were also given safety caps to distribute to communities that use paraffin. In Joe Slovo, we thought that the best way was to distribute the caps and information mainly to spaza shops and private homes that sell paraffin. We learned, however, in the workshop in Joe Slovo that the safety caps we distributed were actually sold to households at a price determined by the spazas.

providers.[2] These followed household energy workshops which were conducted in Cape Town, Petersburg, Pietermaritzburg and Pretoria in preparation for the Energy White Paper by researchers of the Women and Energy Group, the Energy and Development Group, and the Energy and Development Research Centre of the University of Cape Town (see Ward 1995). HEAT (Household Energy Action Training) Project (which is also funded by the Department of Mineral and Energy Affairs) is currently running workshops with communities in the Western Cape, particularly community projects. The techniques that we used for these workshops were designed by Colleen Crawford-Cousins and Sarah Ward of HEAT (Ward 1995 & 1996).

Both HEAT and SDEU have noticed that awareness about energy information was lacking; hence the workshop method was identified as one way of disseminating energy information and creating necessary awareness about energy. The objectives of these workshops are four-fold. Firstly, they serve to build capacity among end-users about efficient use of energy. The main aim is to empower end-users to make informed and rational decisions regarding their energy use and appliance purchases, also to promote efficient, safe and cost effective use of energy. Secondly, the workshop method is an interactive way of bringing large groups of end-users together to discuss the energy problems they experience and to find solutions. Thirdly, the workshops are used to augment research findings in these areas. Fourthly, they are used to initiate future interactions between communities, policy-makers and service providers.

Data in this paper is mainly based on household workshops conducted between July and early October 1996 in three low-income townships near Cape Town.[3] These townships are the Joe Slovo transit settlement near Langa townships, Khayelitsha core houses and Site B site-and-service, also in Khayelitsha. Both Khayelitsha settlements are electrified and Joe Slovo is not (see Mehlwana and Qase (1996) for more information regarding the socio-economic features of these areas). Due to time constraints and difficulties relating to organisation and other logistics, a workshop involving backyard shacks and tenants in Langa - another area where research is done - has not yet been conducted.

The next section of this paper reviews techniques used and problems and difficulties in organising and conducting these workshops. The third section gives a summary of the workshop process. The fourth deals with information relating to electricity use in these areas; pointing, especially, to problems which constantly face end-users. The fifth section analyses problems with 'transitional' fuels such as paraffin and gas. The last section summarises the paper and points to the relationship between non-energy and energy issues, including the lack of basic services such as sanitation facilities, reticulated water, health services, amongst others. It concludes with some recommendations suggested in the light of recent studies by Simmonds and Mammon (1996) on household energy use by urban low-income households in South African key metropolitan areas, Thorne (1996) on the financial costs of household energy services, and by Mabuse (1996) on the review of international trends in appliance labelling.

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[2] Similar workshops have been conducted in black townships in Johannesburg, Durban, and East London.

[3] The second series of workshops between households and service-providers are going to be conducted at the beginning of 1997. Community workshops - which this report is based - also prepare households for community and policy-makers/service-providers workshops.

2. The review of the workshop method[4]

All the three workshops had a wider participation than just the sampled households.[5] Other households and civic structures of respective communities were also invited. The number of invitees, however, had to be kept to a minimum for the workshops to be manageable. The reason that the civic structures were also invited is to carry forward action plans coming from workshops. The themes were designed to be flexible depending on the context and they were constantly revised and changed to suit particular needs of participants. For instance, two workshops - in Site B and Joe Slovo - focused generally on energy sources used by households in those particular areas. Also, in Joe Slovo, the workshop served as an opportunity to feed back results of Phase I research, while in other areas, separate meetings were called to inform the community of research results.[6] At the request of households in Khayelitsha, the workshop in this area focused exclusively on the use of electricity, which was seen as an area of major concern.

The workshop plan basically followed a uniform pattern in all three areas. Firstly, participants were required to brainstorm their energy problems - in the case of Joe Slovo and Site B - and their electricity problems in the case of Khayelitsha. Secondly, these issues were prioritised so that the most important two or three energy issues were systematically analysed by participants. Thirdly, participants suggested interventions and the level of those interventions - at household, civic structure, service provider or government levels (see Tables 7.1 - 7.8 on how end-users systematically analysed their energy problems). Lastly, participants designed a plan of action on how and by whom issues from the workshops will be carried further.

2.1 Problems with this method

Although these workshops were generally successful in terms of the projected number of participants and end-users' input, it is worth mentioning that problems occurred.

- These workshops, except for the one in Site B, were delayed in starting. They were planned to start at ten in the morning, but began some two hours late. This affected the workshop plan as some issues were not dealt with adequately.
- The civic committees in Khayelitsha and Joe Slovo attempted to dominate the workshop proceedings at the expense of non-civic members. In Khayelitsha, for instance, invitations of households to attend the workshop were solely handled by the civic committee. This resulted in few households attending and this workshop was dominated by the civic committee members. Some households claimed they did not receive invitations. In Joe Slovo, the civic committee invited a large

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[4] Researchers involved in the national project entitled 'Social Determinants of Energy Use in Low-income Urban Households' were trained in facilitating community workshops by Colleen Crawford-Cousin and Sarah Ward.

[5]The research sample consists of fifteen households from each four settlement category, making an overall sample of sixty households (see Mehlwana and Qase 1996).

[6] At the beginning of the study in May 1995, we had promised the civic organisation in areas we conducted research that we will furnish them with research findings of their respective areas. Since Joe Slovo consists of a dynamic population - in terms of movements - we experienced some problems in organising this workshop. None of the individuals, who made the previous local civic committee, were living in Joe Slovo (including its chairperson). The project hence was not known to the new civic committee.

number of people, and we had to turn away a majority so that the number of participants would be manageable.

- There was a domination of one gender by another in all these workshops. In both Khayelitsha and Joe Slovo, where civic members organised the workshops, men - who form the majority of the civic committees - were over-represented and they dominated the discussion, while in Site B, women were more vocal on energy problems than men because they were the majority, in this case civic committee members did not attend the meeting.
- There were conflicts of interests between researchers and the community. The main purpose of the workshops - which is to build capacity on household energy matters - was often misconstrued by participants. They perceived that researchers will solve their energy problems (such as supplying electricity in Joe Slovo). Also, they wanted to use researchers as activists in order to attain some community needs such as toilets (in Joe Slovo) and lowering of electricity tariffs (in Khayelitsha).

These problems are further discussed fully in the summary of the workshops below.

3. Overview of the community workshops

This section gives a brief overview of the process of these workshops (see also Appendix 1 for workshop agendas). It also presents a summary of different energy issues that came out of these workshops. These issues are analysed fully in sections 4 and 5 below.

3.1 Joe Slovo workshop

This workshop was held on July 14, 1996 in a local community hall. The workshop was planned to start at ten in the morning. The purpose of this workshop was two-fold: to discuss the main research findings of Phase I with the local civic committee, and to build capacity amongst the households in the sample around key energy issues. On the day of the workshop, however, problems occurred which resulted in the workshop starting more than one and half hours late. The key problem was the bad weather of day when heavy rains made Joe Slovo waterlogged. Absence of proper roads made access to the community hall difficult. When the workshop finally started, only three of the sampled household turned up (the rest of the attendants were community leaders and household members living near the community hall). Another problem was the breakdown of communication between the organisers of the workshop and the community leaders. We had invited only fifteen households and few civic committee members. However, on the day of the workshop, people were called through a loud-speaker to attend the workshop in large numbers. Since we wanted a manageable number, many people had to be turned away. At the end there remained twenty-three people. Men constituted a dominant force (see Appendix for a list of attendees). Women were vocal on some issues, especially concerning health aspects of energy use, while men dominated issues relating to electricity and the formation of a local structure or forum that will deal with energy issues.

It was difficult to make people focus on, and prioritise energy issues. For the most part, participants mentioned a desire to have access to basic services. One respondent mentioned that 'we have problems when we have to pay our *accounts* because there are no *offices*'. It turned out that he was referring to access to toilets. We list below energy and non-energy issues that came up in this workshop.

- Participants pointed to a need to have electricity in their homes and street lights in the area to combat the problems caused by paraffin and crime. Some had electric appliances which they would like to use when electricity is installed.[7] It was perceived that it should be easy to install electricity in Joe Slovo because (a) power lines run above the settlement and (b) formal houses next to Joe Slovo have electricity. They did not understand why the authorities do not install electricity. It was also pointed out that electricity could go a long way towards addressing crime and hooliganism. Most crime in Joe Slovo was said to be committed at night when it is dark. Women mentioned that, because the area is very dark at night and shacks are close to one another, they are particularly vulnerable.
- Participants agreed that because paraffin is the only fuel accessible to most households in Joe Slovo, it causes many problems since many people, especially children are burned by fires. One participant mentioned that his child was burned, and since the area is not easily accessible (by transport and in terms of tele-communication), the child could not be taken to hospital quickly.
- Using paraffin lamps to illuminate their dwellings often causes health problems through over-exposure to paraffin fumes. Women, especially, mentioned that since it is cold (in winter) and unsafe when it is dark, they do not to switch off the lights at night because lamps generate heat and lighted dwellings deter potential hooligans. However, by burning the lights for most of the night they expose themselves to health problems, especially asthma because of dangerous fumes emitted by paraffin.
- The inconsistency of the price of paraffin is seen as a problem. Every spaza has its price of paraffin. End-users are at the mercy of unscrupulous paraffin dealers who sometimes overcharge their customers.

Also mentioned were major issues not directly related to energy. The community felt that these issues should be considered in a discussion about people's problems or needs. Non-energy issues were seen as playing a major role in energy problems. Issues like insecurity of tenure was seen as having an impact on investment by households on energy efficient and safer appliances. Lack of basic services like health facilities, roads, proper houses, etc., were seen as related to energy issues faced by residents, in terms of fires, and paraffin poisoning.[8]

3.2 Khayelitsha workshop

The workshop was held on September 1, 1996 at a local school. The research findings were presented in a general (mass) meeting two weeks prior the workshop. The presentation was attended by more than 200 people, representing households in a sampled area in Khayelitsha. During the presentation it was agreed that the most pressing problem concerned electricity.

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[7] This was said by people who were erstwhile backyard lodgers in the formal houses in Langa where they had access to electricity.

[8] Although paraffin poisoning was not reported in Phase I of this study in this settlement, the spectre of children being poisoned by paraffin still remains a distinct possibility.

Participants brainstormed their electricity problems, articulating their experiences about the use of pre-payment meters (key-pad). They complained that the units run fast.[9] We summarise their problems with electricity as follows:

- Many argued that 'the type' of electricity they receive is of poor quality. When many appliances are switched on, for instance, electricity trips. 'We cannot use the television, sewing machine and radio at the same time - you do not find this in white areas.' Also, this type of electricity is seen as susceptible to bad weather, for instance, when it is raining heavily there is bound to be a black-out.
- Others complained about the escalating costs and inconsistency of tariffs ever since the key-pad system was introduced.
- The discontent about the quality of service they receive contributes to the stealing of electricity or tampering with the ready-board. There is a conflict of interests between residents and Phambili Nombane.[10] The latter had allegedly broken the agreements it made with the civic committee of Khayelitsha regarding confiscation of ready-boards of people suspected of stealing electricity.
- Most participants felt that there was a lack of general information regarding electricity - its supply and the breakdown of costs. Again, a reference was made to Phambili Nombane.

3.3 Site B workshop

A workshop held in Site B on October 6, 1996 was different to the above two workshops because this workshop was dominated by households. (In fact, there were no committee members, except for some sampled householders who were members of the committee.[11]) Secondly, women in this workshop far outnumbered men. These women, because of their numerical strength, were more vocal in discussion relating to energy use. This workshop was more general in focus because it dealt with most energy problems faced by the end users in this settlement. Below is a summary of their energy problems.

- *Electricity*

The concerns of participants in Site B regarding electricity were the same as in Khayelitsha. End-users complained that electricity is very expensive and more and more households cannot afford it. Moreover, they feel that the quality of electricity is wanting since it trips when more appliances are connected. They also complained that the life-cycle of bulbs is very short. This is discussed in full in section 4 below.

- *Paraffin*

The participants were more vocal on paraffin problems. All claimed they have been using paraffin for most of their lives. The type of paraffin available to them is different

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[9] Participants said they prefer the card to key-pad system. They argued that card system was better because the units were not running fast. Now they see that electricity is getting more and more expensive.

[10] Phambili Nombane is a utility that supplies the Khayelitsha region with electricity. It was anchored by Eskom and two European-based utilities and was registered as a company in January 1994.

[11] The reason for limiting civic committee's involvement in the workshop was based on the past experience of workshops in both Joe Slovo and Khayelitsha where the committee tended to dictate the proceedings of the workshop.

from what they are used to. They complained that paraffin available in shops and spazas in Site B is of a very low quality and cause health hazards. They mentioned that flame stoves are also problematic.

- *Gas*

Although they see gas as an alternative fuel, especially for cooking, they see it as very dangerous. An impression was that these end-users could afford gas but it is potentially dangerous, which stops people from using it.

- *Wood*

Women, especially, said that wood, which they use for heating and informal business has become scarcer. It used to be easily available but as more and more people collect it, it is now available in far away places 'in Blackheath'- some ten kilometres away from Site B. For them to use wood, they have to buy from wood vendors at a very high price. Some women had stopped using wood and therefore did not want to discuss it.[12] Even though most participants said they are not using wood, they also mentioned that using wood for space heating is very dangerous because of dangerous emissions from the woodfuel.[13]

4. Electricity usage in low-income households - perceptions and discontent

It was clear that participants in these workshops preferred electricity to other energy sources. For example in Joe Slovo squatter camp - where there is no hope that there will ever be electricity - people were wary of discussing fuels they are using, such as paraffin and gas, lest this may be construed as meaning they are satisfied with these fuels. They could not understand why they cannot have access to electricity when electric power lines are running above their homes. Although electricity is preferred for all its positive attributes - such as cleanliness and convenience - there are inherent problems. One of the main problems is that it is not affordable by poor people. As a result most poor households do not utilise it fully even though it is available in some settlements, such as Khayelitsha and Site B. In two workshops, participants expressed a common concern that electricity costs are above what an ordinary end-user can afford (see Table 7.1, 7.2, 7.3 and 7.4).

Moreover, we noticed that people's perceptions of electricity differ tremendously; those with and those without electricity have divergent and often antagonistic perceptions. In Joe Slovo squatter camp, people believe that if they should have electricity they would never use other energy sources again.[14] The main reason is that other fuels such as paraffin and gas are associated with the dangers of paraffin ingestion, fires, and other health-related hazards. The dangers of using electricity are very rare. There are various reasons for using other fuels and these will be dealt with

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[12] Only one person is currently using wood in the workshop for his informal business. Because, the workshop was dominated by women, wood was not seen as a priority fuel to be discussed in great detail.

[13] In her study of fuel use by squatters on a farm in the Western Cape (Ross 1993) also come across this view by residents who said that woodfuel they collect contains poisonous substance.

[14] Campbell et al (1990: 12) also observe that the majority of blacks living in informal settlements prefer to use electricity to other energy types, but the cost of connection, wiring and appliances is usually higher than the monthly income of most households.

in this discussion. It must be mentioned though that people expressed a genuine desire to have electricity and to rely on it for all their energy needs.

We now focus in greater detail on issues relating to electricity use that were discussed in these workshops. Firstly we discuss the reasons why people want electricity. Secondly we discuss their level of knowledge about this energy carrier. Thirdly we also refer to problems related to appliances. Fourthly, we mention problems end-users have with their service providers and the implications this has for non-payment of electricity bills. We then conclude this section by referring to their suggested solutions to the problems they have with electricity.

4.1 'We want electricity at all costs': a plea from the squatter community

As indicated above, Joe Slovo does not have access to most basic services, including electricity. All people here use paraffin while a few also use gas. Since the settlement is very dense and houses are built of highly flammable materials, fires are a common occurrence. The danger is that if one shack burns, fire easily spreads to others because of their close proximity to each other. As workshop participants pointed out, it is difficult for them to get access to the fire brigade as there are no telephones in the settlement. Also there are no roads to allow cars as well as the fire and ambulance services to access the area. If electricity could be supplied fires could be minimised because people would stop using candles and flame stoves which are main causes of fires.

For women, the environment is also not safe especially at night because there are no street lights. This limits their involvement in community activities. For some people returning home in the evening from work is dangerous especially in winter when it becomes dark early. Therefore, they feel that an electricity supply would help them lead normal lives.

Lack of electricity also limits people's choice of appliances and fuels. Even though some have electrical appliances which they used in their previous areas of residence, they obviously cannot use them. Some have kept these appliances with the hope that one day they will be able to use them. Others have sent these to their families who live in electrified areas.

As we indicated earlier, once people have access to electricity, their perceptions about electricity change. In Khayelitsha as well as in Site B people continue to use other energy sources. According to one participant, 'using different energy sources is too expensive - it is better to spend all your money on one fuel'. Among a myriad of reasons that make people under-use electricity, the crucial one is that their knowledge about electricity is limited.

4.2 People's levels of knowledge about electricity

End-users' levels of knowledge about electricity differ according to whether or not they use this energy source. In other words their level of knowledge depends mostly on their experience. What is very clear is that *end-users do not have sufficient information* about electricity in particular, and other energy sources in general. In sharing information about energy sources during the workshops, we hoped to balance this gap.[15]

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[15] Of course, there were limitations: facilitators often did not possess some of specialised knowledge required by end-users, for instance information relating to the technical knowledge of energy and appliances. It should be underscored, however, that these

Some of the questions people had about electricity were:

- Who is responsible for supplying Khayelitsha with electricity? Is it Eskom, Phambili Nombane or Lingelethu Council?[16] Who is responsible for our electricity bills?
- How are the units calculated, who is responsible, do they just estimate or what? Can they give us a breakdown of our consumption?
- Are street lights included in our bills? If they are, what about the service charges that we pay?
- How many plugs should we connect with electricity?
- Can I use a different appliance on the plug marked for a stove?

From these questions, it can be seen that, firstly, there is a total *lack of transparency* in terms of electricity supply to end-users. End-users, for instance, do not know who is responsible so that they can lodge their complaints when necessary. There is no one available to answer their questions, although customer care is supposed to be a prime focus of any service provider. In both workshops, there was a negative stereotyping of Phambili Nombane. It is seen only as a 'watchdog' for Eskom with no interest of serving the community at heart. This has been made worse by the alleged failure of this utility to honour agreements between them and the community. For instance, it continues to confiscate ready-boards of people alleged to have tampered with them without consulting the civic committee.

Secondly, other questions point to *information* given to the community when they are supplied with electricity. End-users either were ill-informed about how to use ready-boards, or no information was given to them when electricity was installed.[17] There is a need for people to be familiarised with the use of the system so that they can be able to manage it. For instance, when people buy appliances, they are supplied with operating manuals; the same principle, they argue, should apply with electricity.

Thirdly, it appears that end-users are not sure about their *electricity expenditure* even though they use prepayment meters. They believe that units run fast and are inconsistent. This means that they need to be informed of which appliances cost more to use and how the units are calculated.[18] Some do not believe that using electricity for cooking is more expensive than gas. They point to a need that end-users need to be educated about appliances and their costs, and the best method of purchasing electrical appliances. A woman who uses a stove she bought second-hand was not aware of the disadvantages of this. She complained that units run very fast and have

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workshops were also used to identify questions that end-uses are faced with so that they could be followed up at a later stage.

[16] Lingelethu is one of the many discredited township councils established by the past apartheid government to administer Khayelitsha. This service provider lacked legitimacy since it was seen as an extension of the apartheid government.

[17] In an interview with the general manager of Phambili Nombane in September 17, 1996, he made it clear that before electricity was supplied in Khayelitsha, officials visited households and informed them about electricity issues, such as how it works and how to use electricity efficiently.

[18] According to Eskom (1992: 1-14), the cost of electricity does not only cover units (kWh) that end-users consumes. They also include capital, such as power station capacity, transmission and reticulation networks, and metering and other hidden operating costs other than the price of fuel itself.

become expensive to use. It turned out that the knobs of her hotplate cannot be adjusted so it is always high. This brings us to the discussion on problems that end-users have of appliances.

4.3 Appliance related problems

Problems relating to appliances were widespread in the workshops: 'I bought a light bulb and it fused the same night'; 'There is a problem with this electricity that we are using, sometimes when you use a kettle, the cord becomes very hot and it becomes soft'; 'I bought an electric stove brand new but it is not adjustable, it is always high.'

Although these were personalised problems, they are important in that they provide information about problems people are experiencing. Although the numbers of participants were too small to draw any generalised conclusions, it is, however, possible that these problems may be common to other end-users. Information about electricity and appliances is lacking in the community. The woman who has problems with her stove does not know that a new stove has a guarantee, and she has the right to return it to the seller within a specified period. Due to lack of information people become victims, even in cases where they should not have been. When buying appliances they are not aware of important features to look for in an appliance. For example, the man who complained about the bulb did not know that they come in different sizes, which indicate their power and durability. Moreover, people need to know what kind of appliances cost more to use. This should not be limited only to electricity, but should instead include other energy sources. For example, gas is reportedly cheaper for cooking than electricity (see Thorne 1996), and this needs to be emphasised.

4.4 Problems with the service and implications on non-payment of electricity

Generally, participants in areas supplied with electricity felt that the quality of service is *very poor*, in terms of both the supply and customer relations. End-users mentioned frequency of blackouts or power failures especially in winter when it is raining. These mostly occur late in the afternoon when people return from work. This is the time when they are supposed to prepare evening meals. 'It has become difficult to rely on electricity for cooking because it can go off while you are still busy cooking,' said participants in one of the workshops. This forces them to look to alternative fuels like paraffin and candles. Also, it is not possible to use a number of appliances at the same time and this causes a great deal of inconvenience. A male participant related how his television broke because it was switched on while a sewing machine and a radio were also in use. He said:

> At first I could not see pictures on the screen and now it is broken completely. You cannot use many appliances with this electricity.

This perception, whether or not it is valid, reinforces the argument we have made earlier that people do not have sufficient knowledge about the energy sources and appliances they are using. Until they are given this information, perceptions such as this will continue to create discomfort within the community.

In part, as a result of the above problems, people feel that there is no customer care at all and this causes dissatisfaction among the people; as one said:

> These blackouts happen without notice, we feel that we are not respected at all as customers. These things do not occur in white areas.

The general feeling is that people need to be informed in advance if there is going to be a power failure and the anticipated duration of a 'blackout' so that they can make contingency plans. They said:

> They used to do it [warning] with water in Gugulethu and people would fill up their buckets with water in good time. Why cannot they employ the same system here when there is going to be a blackout? We are working and there is no time to prepare evening meals.

These are reasonable complaints, even though at times blackouts are not necessarily caused by the low quality of electricity supply - that they are not informed about it makes it difficult for people to think otherwise. In established and mostly white areas, even though blackouts are infrequent, when they do occur people are able to contact authorities to find out. In Khayelitsha people argue that:

> ... When they cut off electricity we do not know who to consult so that we can find out why, and how long will it take. These people are not accessible to us ...

4.5 'A R20 worth of electricity will last three days this week and two days next week': perceived inconsistencies in metering

People complained about inconsistent and unreasonable metering, and some attribute this to the new prepayment key-pad system. They argue that these units run faster than usual. As a result, it is difficult to budget for energy expenditure even though they use prepayment meters. Prepayment meters were, however, introduced to assist low-income households so that they can afford and plan for the amount of electricity they use.

> These days you buy electricity for R50 and it is already finished in four days. As a result we resort to *ukutokola*.[19]

Due to these problems, some people have devised other means of coping with the escalating costs of electricity. These may not always be legal but at least they provide immediate relief. *Ukutokola*, which people admit is common, is one of the ways adopted to minimise electricity expenditure. Although they admit that this is wrong they find it difficult to accept the way authorities, particularly Phambili Nombane, handle the problem. For example they mentioned that people's ready-boards have been taken away by Phambili Nombane even though they have not tampered with the ready-boards (see Table 7.2). Everyone is charged R750 for the ready-board to be replaced. They said:

> Some boxes have been taken away [by Phambili Nombane] even though some people have not tampered with them. Everyone is charged R750 [to replace the box]. We have agreed with Phambili Nombane that they should not go about doing this without the knowledge of the committee - I still have the details of those agreements.

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[19] This is a township euphemism for stealing electricity. This is done in three ways, bypassing the readyboard, tampering with it and illegal connections. Some people call this behaviour '*ukukokothela*'.

At present this utility is seen as lacking legitimacy as people accuse it of being undemocratic. Because of the failure of Phambili Nombane to co-operate with them, people feel that this organisation does not have the capacity to deal with their electricity problems. It is also difficult for this organisation to solve the stealing of electricity because, on the one hand, some of its officials are accused of corruption as they are open to bribery to circumvent cut-offs, on the other, they confiscate other people's ready-boards without investigating their cases. Some of these people have only reported problems with their ready-boards but officials tend to assume that they have been tampering with them.

Participants suggested that there is a need for their service to be improved which could solve non-payment of electricity. This requires transparency and co-operation between the authorities responsible for supplying Khayelitsha with electricity and communities. In addition to that they suggested that people should be educated about electricity and this was seen as the responsibility of Phambili Nombane in particular, or any organisation that will be responsible for supplying electricity to their communities (see workshops evaluations in the Appendix).

5. The problem of transitional fuels

This section discusses problems that poor households face with transitional fuels which are most accessible to them. We explore major problems of paraffin focusing on the quality of these fuels and risks of fires and health problems. We also refer to the use of wick stoves which are used by many households in both Khayelitsha and Joe Slovo. We also review why gas is not seen as an alternative to paraffin, by pointing to its perceived danger. The section concludes by mentioning the end-users' suggested interventions. Tables 7.5,7.6 and 7.7 in the appendix show how end-users in these areas have analysed the problems of both paraffin and gas.

5.1 The curse of paraffin: a fuel for the poor at a cost

Women raised problems relating to paraffin usage, such as burns and chest problems. However, men did not support this and they emphasised a need for electricity which they claim *will* do away with problems caused by paraffin. Women, however, approached the problems of paraffin by referring to a need for a clinic in the area. It was pointed out that the nearest clinic is situated far away, and does not offer a 24 hour service. On Sundays, for instance, the clinic is not open and people have to take their children to Red Cross hospital, some ten kilometres away, or adults to Conradie hospital which is also far from where they live. The main reason that a clinic is needed is to provide help to victims of fire and people suffering from chest problems as a result of over exposure to paraffin fumes. Women underscored that fires which occur repeatedly in Joe Slovo are caused by paraffin and faulty wick stoves. A woman who sleeps with the lamp on, complained that paraffin smell tightens her chest at night. She said that, as a result of exposure to paraffin fumes, she now suffers from asthma. Another man mentioned that when a flame stove is switched off the house is filled with choking smoke, making it hard for people, especially children, to breathe.

The problem of the low quality of paraffin and paraffin appliances was also made succinctly in the Site B workshop. Again, women - who are primary users of paraffin - pointed that paraffin is very dirty as compared to the type of paraffin they used 'in the olden days'.

> Paraffin itself is a problem because it is very smoky. This affects especially the lungs and sometimes may result in a person getting tuberculosis and other chest-related problems. It also hurts the eyes. It makes the walls black and dirty. What would you expect?

> [The] paraffin which is sold to people is very dirty. Sometimes it comes totally black and brown-ish. And when you pour it out a stove, you will then find that there is a watery residue at the bottom of the container. That is why this paraffin is smoky, people should check it.

Even when end-users complain to shops where they buy paraffin, they are not given satisfactory explanations. The spaza shops owners often do not have power to determine the quality of paraffin they are supplied with. Since households rely mainly on paraffin for cooking, they have no a choice but to use this dirty paraffin even though they know it is a health risk. A woman said:

> As recently as last month [September 1996], paraffin had a strange colour. It looked like diesel. When we bought it, it was so dirty that it produced a black smoke. We asked the shop-owner about this but he said it came like that where he, himself, bought it, and there is nothing he can do about its quality.

They perceive that the oil companies do not have the interests of end-users of paraffin - poor black households - at heart. The government, which is supposed to regulate the sale of paraffin, is seen as ineffective since it does not inspect the quality of paraffin. End-users of paraffin have not seen any government inspectors looking at the sale of paraffin in spaza shops. Government silence is interpreted as a lack of care about the safety and health of poor end-users.[20]

> We do not understand why our government does not check the quality of the paraffin we are getting. Maybe it is because it is used by black people; the petrol which is mainly used by white people is checked everyday.

As in Joe Slovo, the quality of wick stoves presently on the market is also questioned. The majority of households use these stoves because they are cheaper. Households, however, pay the price. Apart from the very short life-span of wick stoves, they cause fire. This, in turn, restricts women from performing other household tasks, such as laundry because they have to monitor it very closely to avoid fires.

> If you cook with a flame stove you cannot go anywhere. So it is difficult to do other household chores outside the house. It is restrictive for us women because we do most of the cooking.

When fire does occur, people use water to put it down because fire brigades take a long time to respond. A fire caused by paraffin, however, is difficult to extinguish with water since, instead of stopping it, water spread the fire to more shacks.

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[20] This view is also shared by households in different parts of South Africa. In series of household workshops conducted nationally in preparation for the energy summit which was held in November 20-21, 1995, end-users complained about the quality of paraffin sold to households. They argued that the oil companies are selling 'waste paraffin' which is unsuitable for household use, and are exposing end-uses to serious health problems.

> People who use paraffin stay in shacks which are built of highly flammable objects. The fire spread very fast.
>
> Most people, once the flame [stove] explodes try to pour water and this makes the flames to go sky high and cause danger to other shacks.

5.2 Paraffin kills but gas destroys: a perceived danger of using gas

Although gas is better than paraffin, it is not seen as safer option because it is regarded as dangerous. To most people, the devil they know is better than the one they do not. A man in Joe Slovo put this view rather succinctly when he said; '*Ipalafini iyabulala kodwa igasi iyatshabalalisa* (Paraffin kills but gas destroys)!' Although adults may know how to use gas safely, children may use gas when adults are away from home. It is worth mentioning that gas was not seen as more expensive but as very dangerous to use. In Site B in particular, none of the participants said gas was expensive. There were others in the group who use gas. Although they prefer it to paraffin they cautioned other people that:

> Gas is safe but people do not know how to use it, when you switch on a gas stove you should have matches next to you. You cannot switch it on if you are going to search for matches. People who are forgetful should not use gas.
>
> You have to avoid spilling water on the gas ring when you are cooking with gas because the two are not friends.

A point of concern around the safety of gas is that local gas hawkers do not think about safety when they sell gas. These hawkers do not have measuring devices which show when the canister is full or empty. This result in overfilling or under-filling the gas canister (see Table 7.7 in the appendix). A woman who uses gas shared her experience that:

> People who fill our gas tanks do not care. They will connect a pipe and go somewhere else, when they come back the tank is over-filled but they do not care about this. They will just give it to you. Then when you get home and switch on your stove, gas continues to leak and causes flame beneath when you light it. This flame is dangerous.

At least one can see when a flame or primus stove is old, they argued, but it is difficult to see when a gas ring is old. A woman, who emphasised that she will never use gas said; 'These gas appliances do not show when they are very old, and this is dangerous too.'

It was agreed that education on the safe use of gas should be initiated and that children should also be involved. Although most participants in all these workshops watch television or listen to radios frequently, they concurred that these forms of disseminating information are not as effective as workshops because the latter allow interactive participation (in the sense that workshops allow people opportunities to ask question and get clarity on issues). The advertisements on televisions and radios are very brief and more commercial than educational. They said, 'it's just money making, you see'.

5.3 Solutions of paraffin problems

We now highlight solutions that end-users suggest in order to curb the problems outlined above, especially fires which have disastrous effects in terms of destroying

property and disrupting human relations. One of the key solutions was that access to *electricity* in Joe Slovo will solve the problems of paraffin since they will not have to use paraffin again. Since the majority of these households are poor, this view is more idealistic than real. There has been no evidence from either recently or old electrified settlements that end-users stop using paraffin once they obtain electricity. It has been observed that households continue to use paraffin for cooking, space heating, and, to a lesser extent, for lighting (see Mehlwana & Qase 1996, White et al 1996, Jones et al 1996, and Bank et al 1996). Although gas is a safer option than paraffin, it was not preferred because it was seen as dangerous.

From the manner in which end-users tackled the questions of low quality fuels, it shows that they are keen to take responsibility for their own development and are ready to learn to manage their fuels, and help each other in the community (by learning first-aid in case of paraffin burns and poison, for instance). In Joe Slovo, in particular, end-users agreed that there is a need to establish a separate energy forum which is independent of the civic committee and other development forums which will take up energy issues.

6. Conclusions and recommendations

We conclude this paper by summarising key energy issues and also pointing to the importance of non-energy issues. Housing needs, insecurity of tenure, access to basic needs other than energy have direct impacts on perceptions and use of energy. This section also makes recommendations resulting from what was learned during the workshops.

6.1 Summary of key points

We emphasise that most participants of these workshops are living below the poverty line. They form part of poor households in South Africa who spend a higher than usual proportion of their income on meeting energy needs (cf. Simmonds and Mammon 1996). Campbell et al (1990) show that low-income households in metropolitan areas spend between 5% and 20% of their monthly income on fuel expenditure.[21] Households in these areas fall into the same category. As a result of their poverty, these people use cheap and readily available fuels, particularly paraffin, which has health and safety risks. Even electrified households *will* continue using paraffin for quite some time - and paraffin cannot be wished away.

We have shown that in two areas which are electrified, households have problems with this energy source. Rather than lowering the costs of energy expenditure, the transition to electricity has brought problems in terms of increased household energy expenditure. It seems that electricity has not met their high expectations and their lives have not been substantially improved, as they come face to face with realities of high tariffs and expensive electrical appliances. In Khayelitsha, in particular, this has made some people resort to coping strategies such as bypassing the ready-board or tampering with it. Another contributing factor to this non-payment of electricity is the conflict of interests between electricity provider and the community.

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[21] A study by Thorne and Van Gas (1993) found that in Khayelitsha, relatively wealthier households spend a monthly average of R67 to meet their energy needs against R127 per month of poor households with no electricity.

On the other hand, households which still have no electricity have a utopian notion of electricity. They maintain that after electricity has been connected, they see a situation where all their problems with paraffin and gas will be solved as these fuels will not be used. However, practicalities, such as the income status of most these households render this perception unlikely. Informed forecasts, based on evidence from a plethora of studies, is not positive - it suggests that low-income households will continue to use paraffin and other 'cheap' fuels for quite some time and paraffin problems will remain until concerted efforts by end-users, the supply industry and government alike are made to curb them.

6.2 Energy in the context of other services

In shack settlements, particularly, it is difficult to separate energy from most social issues. Energy problems are entwined with other community problems, and the solutions should also consider these problems if they are to contribute towards sustainable development. As discussed above, people living in squatter settlements use only paraffin and, to a lesser extent, gas. Both these fuels pose dangers because dwellings in which squatters live are constructed with poor building materials which catch fire easily. Even in situations where shacks are electrified, problems of fires have not been solved since most households still use paraffin. Also, these shacks are constructed haphazardly and very close to one another. Energy interventions should also be linked to housing developments.

Related to proper housing is the delivery of basic services in squatter communities. We have indicated in Section 3 how these impact on energy in Joe Slovo. Roads, telephones and other services are also important as well as basic services. We have shown the difficulty that people in this area are faced with when, for instance, there is fire. First, they cannot get to a pay-phone quickly enough. Second, if they manage to find one, the fire brigade finds it difficult to get into the area because there are no roads.

6.3 Recommendations

Problems that low-income household face with their energy options are complex and require complex solutions that need to take into consideration the social and economic survival strategies of poor households. However, as mentioned at the beginning of this paper, one of the ways of addressing these problems is to empower end-users with energy information. This paper has shown that end-users do not have sufficient, or even elementary knowledge about the fuels they use. Information, for instance, on how the electricity system works, or the safe usage of gas could go a long way in addressing household energy problems and promote efficient and safe use of energy sources. Eskom's policy of 'electricity for all', although a progressive step, will not in itself alleviate problems of energy poverty faced by poor households. Households may have a physical access to electricity but may not use it to the optimum because of lack of knowledge regarding how to best use it. Suppliers and other service providers have the responsibility of sharing the information with the end-users which will ensure that cost effective and efficient ways of energy use are sustainable.

6.3.1 What type of information do end-users want?

The basic information that end-users need to know concern cost effective ways of using electricity, safe ways of using gas and strategies to reduce paraffin risks. We summarise this needed information as follows:

1. **Paraffin**

- Problems of paraffin, such as fires and low quality of paraffin supplied to households, have not been addressed. There have been attempts, however, by the South African Paraffin Safety Association to reduce paraffin poisoning of children by spearheading a 'Safety Cap' campaign. Sadly, this campaign, for all its positive attributes, has not filtered through to areas where we conducted workshops.

2. **Electricity**

- Households do not know how electricity is metered or calculated. They also do not know that they also pay for costs other than the units of electricity they consume. There should be transparency in billing the end-users where their electricity accounts should provide a breakdown of all the costs.
- Information as to how electrical appliances perform in relation to each other is also needed (cf. Mabuse 1996) - for instance, how a certain type of kettle is more efficient than another, or how many units each appliance in the household consumes.
- End-users also need the information which will provide a comparison across fuel types (cf. Thorne 1996). That is, what fuel is best to use and for what end-use? What fuel is best for space heating and why? What fuels cost less for cooking? These are some of the questions that end-users ask. Thorne provides an insightful and comparative analysis of household energy types but, as mentioned earlier, this information is not readily accessible to people who use energy.

Once provided, this information on household energy will enable households to make informed choices about the best energy source to use, to be able to plan for their energy use and promote the efficient use of energy.

6.3.2 Workshops for information sharing

Workshops have been identified as one vehicle that can drive the information-sharing between households and service providers. Workshops allow for a two-way process of interaction between supply and demand components. Workshops also provide arenas to debate key energy problems and to arrive at solutions that are mutually agrees upon by all stakeholders.

6.4 Plan of action: where is the process going?

The process of information-sharing through workshop has just been started. The next phase of this process will be to hold workshops between end-users and energy suppliers or service providers. The intention is to start a dialogue between communities and suppliers which will lead to solving problems each role player faces.

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12:15	Brainstorm on energy problems by end-use Prioritise three problems by end use Chain demonstration
15:00	Small group discussions (three groups) Chain analysis and intervention strategies
16:00-16:30	BREAK
16:30	Plenary - discussion & prioritising solutions Plan of action
17:15	Closure

7.2 Participants[22]

Joe Slovo

Mrs Pinkie Malgas, Mrs NVG Mathanga, Mr C Dyantyi, Mrs NI Blayi*, Mr M Mpumela, Mr Z Mazolo, Mr N. Nkila, Mr P. Galada, Mrs Mfolosi, Mrs L. Pezisa, P. Ludidi, N. Mganu, M. Masizana, Mrs N. Potso*, Mrs EM. Adonis, Mrs E. Mgqinya*, P. Nqolo, Mrs. Ngaka, M. Madolora, Mrs T. Mlahlekwa, Mrs N. Mlambisa, O. Mnyanda (Chairperson: Civic Committee).

Khayelitsha

When the workshop finally began, eleven people representing the civic structure and households were present. They were: Mr Boyce (SANCO H. Section Branch Chair), Mrs Leticia Makhaphela (SANCO Secretary), Mr Tshumsila (Organiser), Mr Hlongwana*, Mrs Rose Patekile*, Mrs Nokulunga Lumkwana*, Ms Vuyelwa Ndleleni, Ms Nomaza Nkonge*, Mr Bongani Soci, Mr George Tsilite.

Site B - Khayelitsha

Mr E. Sigagayi*, Mrs Gemba*, Mrs N. Mamqomo*, Mrs. N. Maduna*, Mr P. Qhekeni*, Mr M. Nowatsha*, Mrs G. Maha*, Mr Phaliso, Mrs Matholang*, Mrs V. Ngxiki, Mrs M. Booi, Mrs M. Busakwe*.

7.3 Workshop evaluations

In all three workshops, the participants were given two sheets of papers to evaluate the proceeding of the workshop. In one sheet they had to write what they liked and, in another, what they did not like about the workshop. They comments can be summarised as follows:

Joe Slovo

The participants' evaluation of the workshop was very broad. It did not entirely focus on energy issues pertaining Joe Slovo, but more on the idea of workshops as a form of constructive interaction and sharing of ideas among residents. A woman, who was also a committee member, commented that the workshop made them think about constructive issues and ideas of energy development in Joe Slovo, rather than 'making our [committee] meetings an arena to solve only quarrels, gossips and fights between Joe Slovo residents'. Comments below reflect this view. Participants were asked to

[22] Names marked with (*) are the households involved in the research. Other people in the workshop consisted of committee members and other households that were not directly involved in the research (see above).

comment or evaluate the workshop by pointing out what they liked or did not like about the workshops. The evaluation remarks were written by the participants in Xhosa and we then translated the notes and grouped them into categories. These categories are:

It was the first time the end-users were exposed to a workshop. To them, exposure to workshops was seen as a new form of information sharing.

> 'This is the first workshop in Joe Slovo. It was an eye-opening and I liked what I learned.'
>
> 'Resident ! Today I left my house to listen and be educated about the way we live. All the things we spoke about, [you] asking us questions, [we] responding to your questions, I was left very satisfied in my heart. I wish you could do the same with others.'
>
> 'I left my house enthusiastically for the workshop, I felt the same when I left this workshop. Because I found it very helpful to me and the community. We got some advice on how to live, especially in terms of [energy] development.'
>
> 'I wish there can be many more so that you can continue educating us.'
>
> 'I liked what we have shared. I wish we could have another one.'
>
> 'I liked the idea of having a workshop in Joe Slovo. You have come to our rescue. We learnt a lot as residents.'

Some felt that the workshop broadened their world-view in terms of energy issues. Now they have more understanding of what Reconstruction and Development Programme (RDP) is all about. That is, RDP is also about building capacity among people so that they can identify problems in their communities and be part of the problem-solving strategies.

> 'Your work is beautiful, you have opened our minds!.'
>
> 'This has built us, we are very grateful that you have educated our minds!'
>
> 'Today we have learnt a lot; you have opened our minds with your explanation about how to 'build' each other at Joe Slovo.'
>
> 'I liked the progress. You taught us how to build each other. I am looking forward to more co-operation with you.'

To some people who know the energy problems in Joe Slovo, the workshop has assisted them into developing ideas about the way forward in terms of a development forum which should be initiated by people of Joe Slovo. Now, they will have a forum that will tackle issues of development and reconstruction.

> 'I liked the co-operation we had. The idea of a forum. The government that we voted should work with us. Also we need access to services-toilets and running water.'

'I liked the idea of having a Forum at Joe Slovo. We would like to continue and get electricity.'

The workshop gave them hope and something to aspire to. They no longer feel marginalised as they were before. They hope that places like Joe Slovo will be taken into consideration in energy policy (and other policies). However, some had high expectations.

'This workshop has given me a lot of advice. I am glad that things will be done for us so that we can be like other residents in Langa.'

'I liked the idea of getting electricity. Also liked the idea of improving this place. We must see the leaders we voted for.'

'We have learnt a lot from the workshop we have had, we did not know that there are people who care about us in Joe Slovo. We did not know that there are people who would like to contribute to our development. We thank you very much about the workshop, we wish you would carry us through until the end. We also enjoyed the food.'

'In this day of the first workshop at Joe Slovo, I have learnt about this new process of involving the community, to discuss the difficult conditions we live in, in these shacks.'

'We are grateful to you because, now, we know that people know about our living conditions.'

'What I liked about this workshop is that we had an opportunity to talk about our needs, and how these needs can be met, e.g. water and all the things we need at Joe Slovo.'

'I liked what you have taught us about development.'

'I feel that we have learnt important things that we would never know had it not been for this workshop.'

'I liked this workshop a lot because now we know where we are going. Our people were already loosing hope. Do it again!'

'I left my house for the workshop and I thank you for letting us know what to do when we need something, for example where to go if we want electricity.'

'We liked what you have brought to Joe Slovo, there is nothing to add. You are our hope and you are everything to us.'

Some participants thought that the purpose of the this workshop was to make them use paraffin and gas. They view both these fuels as very dangerous.

'I do not like bad things, like paraffin, I do not want any teaching related to paraffin and gas because they are no good.'

'I did not like the discussion about paraffin and gas. Also the time was too short.'

The bad weather was also mentioned as well because when the rain fell hard it was difficult to hear each other. Since people came to the workshop very late, they mentioned that they would have liked the workshop to continue for a longer time, but they could not because they had to prepare meals, inspect their dwellings whether water has not destroyed them, and also to prepare for the following day's work.

> 'What I did not like about this workshop is that we conducted it bad weather, it was raining and we were cold. Thanks.'

> 'I did not like the short-time.'

Khayelitsha

Although the participants (and most households in the area) have been using electricity for a long time, they still do not know what it really cost. It showed that there is a need for information to made available to households in an accessible way. Community workshops are ideal mechanisms to relay this kind of information. Participants did not mention the Electro-wise campaign. This shows that this campaign has not reached its intended audience.

> 'I like the advice (input) we were given on electricity expenses. People who explained this to us did a great job.'

> 'What I liked is the way you have conducted this workshop. You explained to us about the expenses of electricity and the way we can solve some of our electricity problems.'

> 'You gave us advise on how to reduce electricity costs.'

People do not know who to communicate they electricity problems. There is a need for a legitimate structure which shall be community-driven, where households can interact with to begin to address some problems they have with electricity.

> 'We do not have people to complain. The workshop was informative, I gained knowledge the facilitators were approachable. The workshop itself was very fruitful, as far as I am concerned I received information I did not know about electricity.'

> 'The workshop was fine because we able to put forward our problems regarding electricity. We have also learned that we also pay for the electricity on the streets. We do not know whether the service charges we pay also include street lights or we pay it from electricity bills. If both, we are robbed. No one is able to tell us this information.'

> 'Facilitators of the workshops should be sensitive to, and able to address, people's concern constructively.'

Some of their comments related to the way facilitators should conduct workshop. They should be approachable and have capacity to deal with some of the burning questions the participants have.

> 'I appreciate your efforts, in sacrificing your time. You gave us very good explanation.'

'We were surprised to know that we are also paying.'

'Thank you very much, I enjoyed the workshop. We have learned things that were not clear to us.'

'I particularly like the way you have been humble in whatever was done here.'

People also complained that the workshop started very late than was planned. Some people had arrived an hour later. Also there were some complaints that people did not turn out as planned.

'I did not like to have to wait for the start of the workshop. I arrived at 10 am and the workshop started two hours late. Ideally, Xhosa (language) should be used more when speaking with the community.'

'I did not like that some of the residents did not attend the workshop.'

There was a general fear that this process may not be taken further. Although the participants felt that workshops are effective means of communicating and sharing ideas, they felt that it will be useless if there is not clear plan of action.

'I did not like that we left without knowing our next meeting. Residents did not come out only to share ideas. They want action to be taken.'

'The day for our next workshop was not made very clear. We feel that you (facilitators) have no time frame to deal with things. If it takes more time to meet with service providers, we will have forgotten all we have said today.'

We will stay in our house and forget all the resolution we have taken today, because you are not clear about the future plans.

'We have to start on time for the workshop to more productive.'

'We must not allow people to come and disturb the workshop.'

Site B - Khayelitsha

The participants' comments can be classified under the following broad themes. The information shared in this workshop taught them about energy they use, especially electricity.

'I liked to have been taught all the things I use in my house. I am now wiser than before. This information really developed me.'

'Now I know that there are different types of bulb that consumes different units.'

'I liked the workshop because we learned a lot about electricity because I had problems now my mind is clear about some of the things I did not know about electricity.'

'I am glad that we learned a lot of things, especially relating to electricity.'

Some, however, expressed the hope that their household energy problems will not only be talked about, but should soon be attended to.

'You have come to teach us things we did not know. Now we are clear. I hope that something is going to be done very soon about our problems'

There was a concerned with paraffin and dangers it causes. The workshops provided an opportunity where participants shared information on how to avert some catastrophes that paraffin usage causes.

'Paraffin smokes a lot. I am glad that something about it is being done. Something should be done too about children playing with paraffin.'

'I like that we talked about paraffin and told people that it makes us sick.'

'I liked the discussion about the flame stoves. The solutions to some problems were very helpful.'

A participant mentioned that the workshop method is fruitful in terms of sharing information and meaningful interaction between people.

'I received a lot of information in this workshop. As a shy person I felt relaxed in the small groups. I asked what I did not know. To me opportunities like this are very scarce.'

Most, however, were dissatisfied about the very short of the workshops. They felt that at times they were being rushed through.

There should be more time for workshops. They should be more instructive and we should not rush things.

7. Appendix:

7.1 Workshop plans

Joe Slovo

11:30	Registration and opening prayer
12:00	Welcome and introductions Aims and objectives of the workshop Presentation of main research findings pertaining Joe Slovo.
12:30	Brainstorm on main energy issues pertaining Joe Slovo Prioritise two main problems Group selection and explanation
13:00 - 13:30	BREAK
13:30	Workshop in 2 groups (of 11 and 12 people) Initiate or develop problem chains Chains to be broken by intervention or solutions (what to be done) Identification of WHO to intervene
15:00	Report back session Discussion Prioritisation of intervention strategies - voting exercise Plan of Action (where to from now?)
16:00	Evaluation of the workshop
16:15	Closing

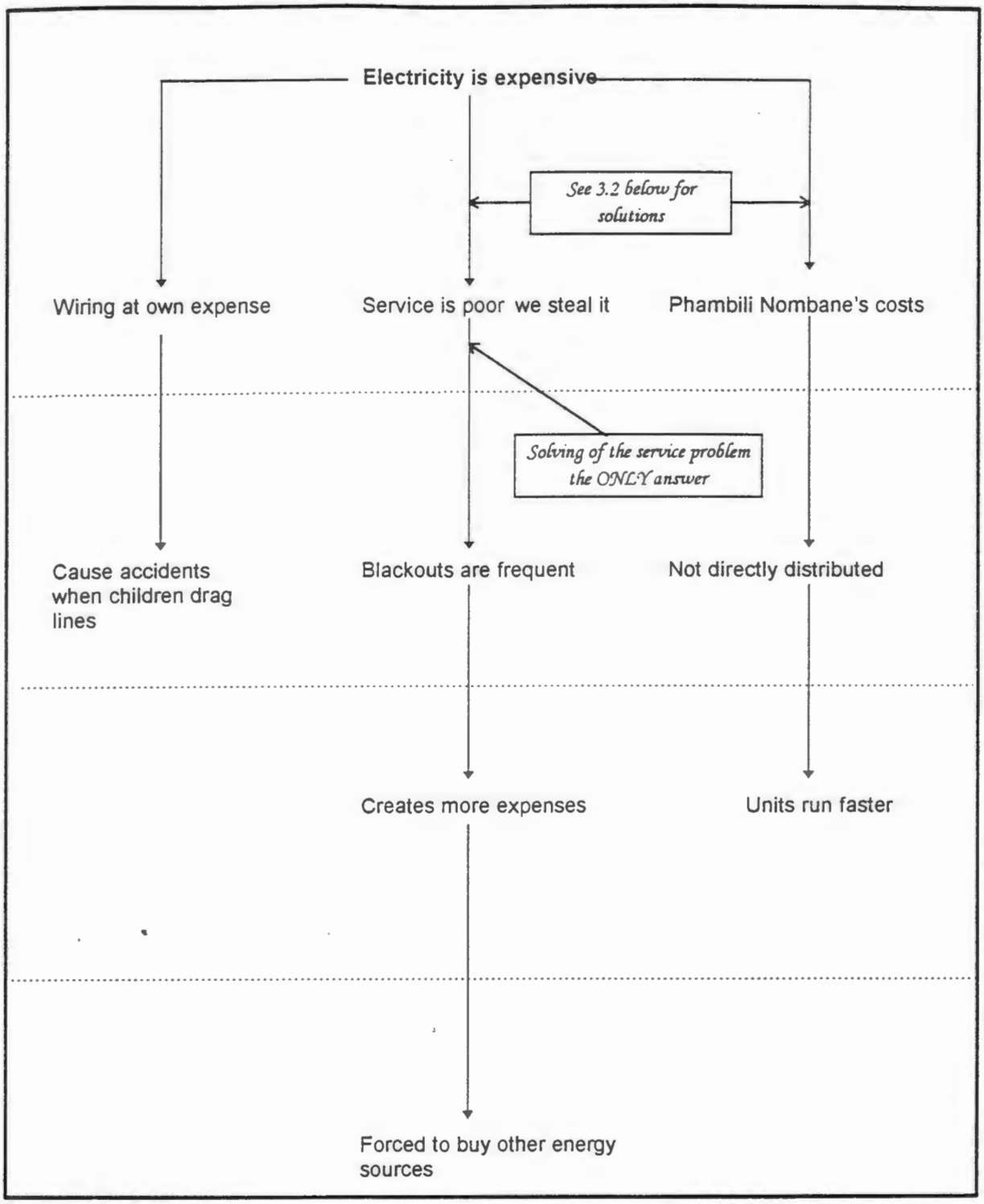
Khayelitsha

12:00	Introductions Aims and objectives Workshop process
12:30	Input on electricity
12:45	Brainstorming on electricity issues and problems Prioritise two main issues and problemitise these Demonstration of the chain
13:00	Discuss problem chains and interventions in groups
14:30-15:00	BREAK
14:30	Report back session discussion & prioritisation of interventions Plan of Action
16:30	Evaluation and closure

Site B - Khayelitsha

12:00	Welcome and introductions Input on household energy use

7.4 Problem statements



7.1: Electricity chain - Khayelitsha

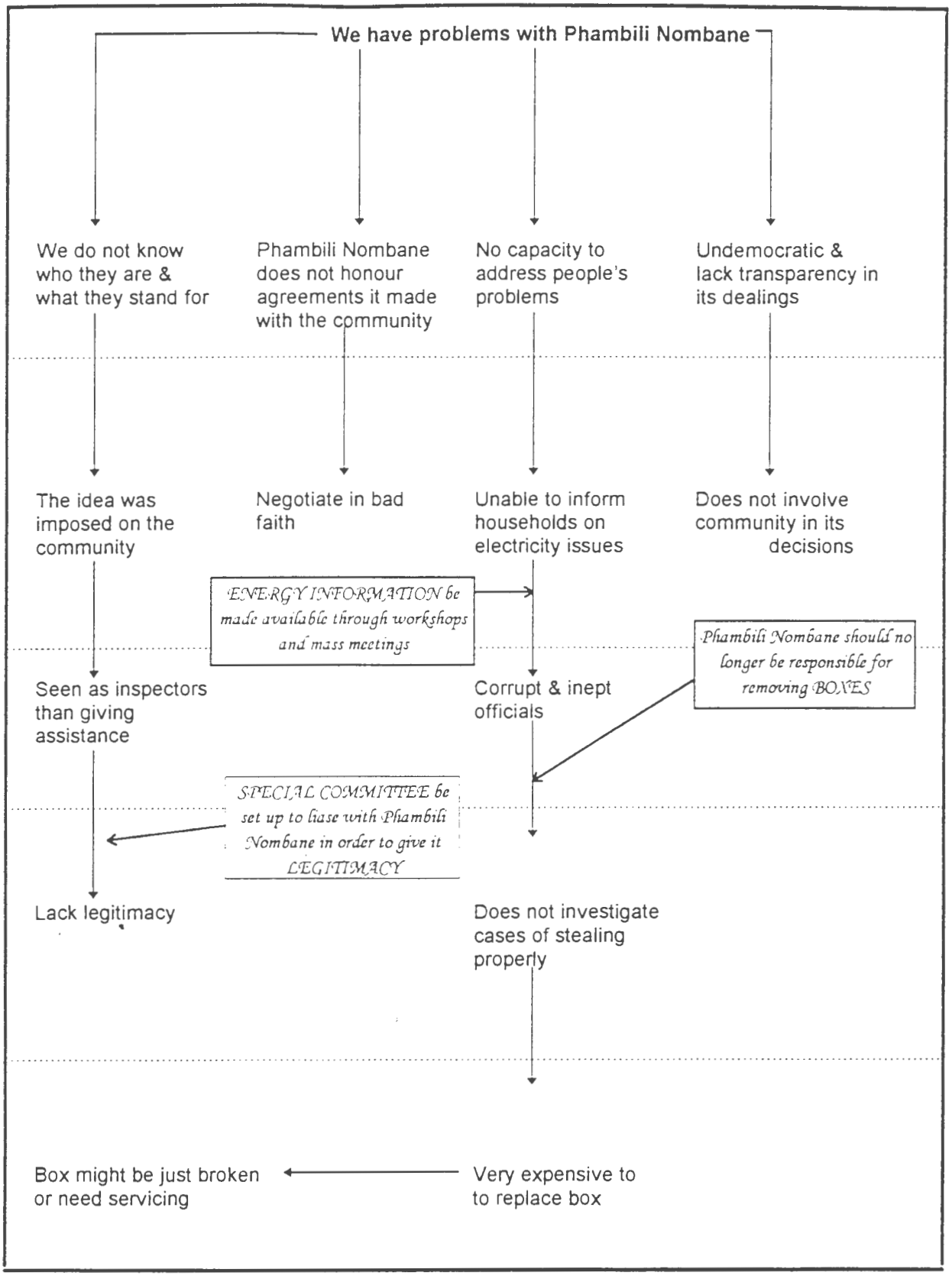


Table 7.2: Electricity service chain - Khayelitsha

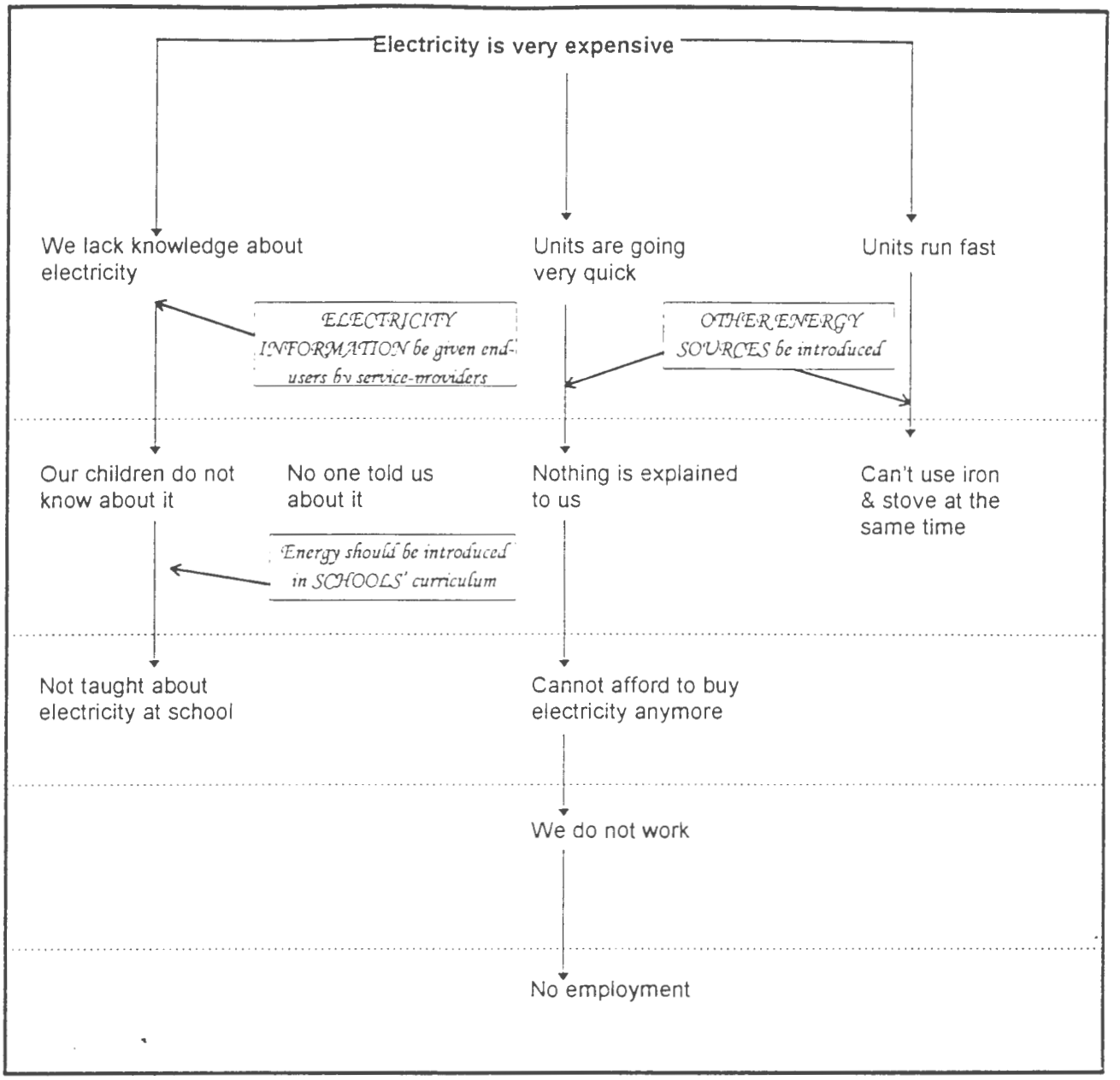


Table 7.3 Electricity chain - Site B

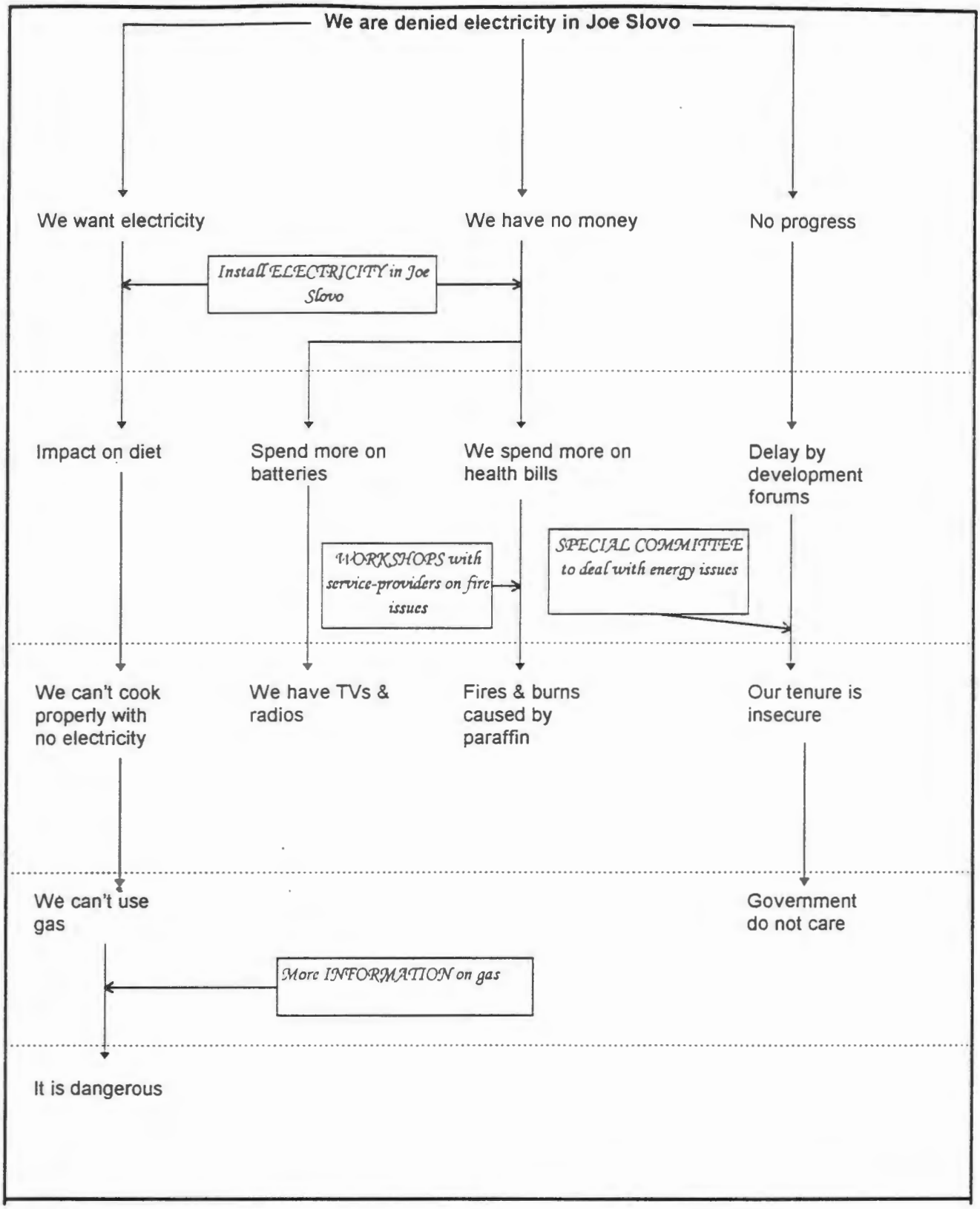


Table 7.4: Electricity chain - Joe Slovo

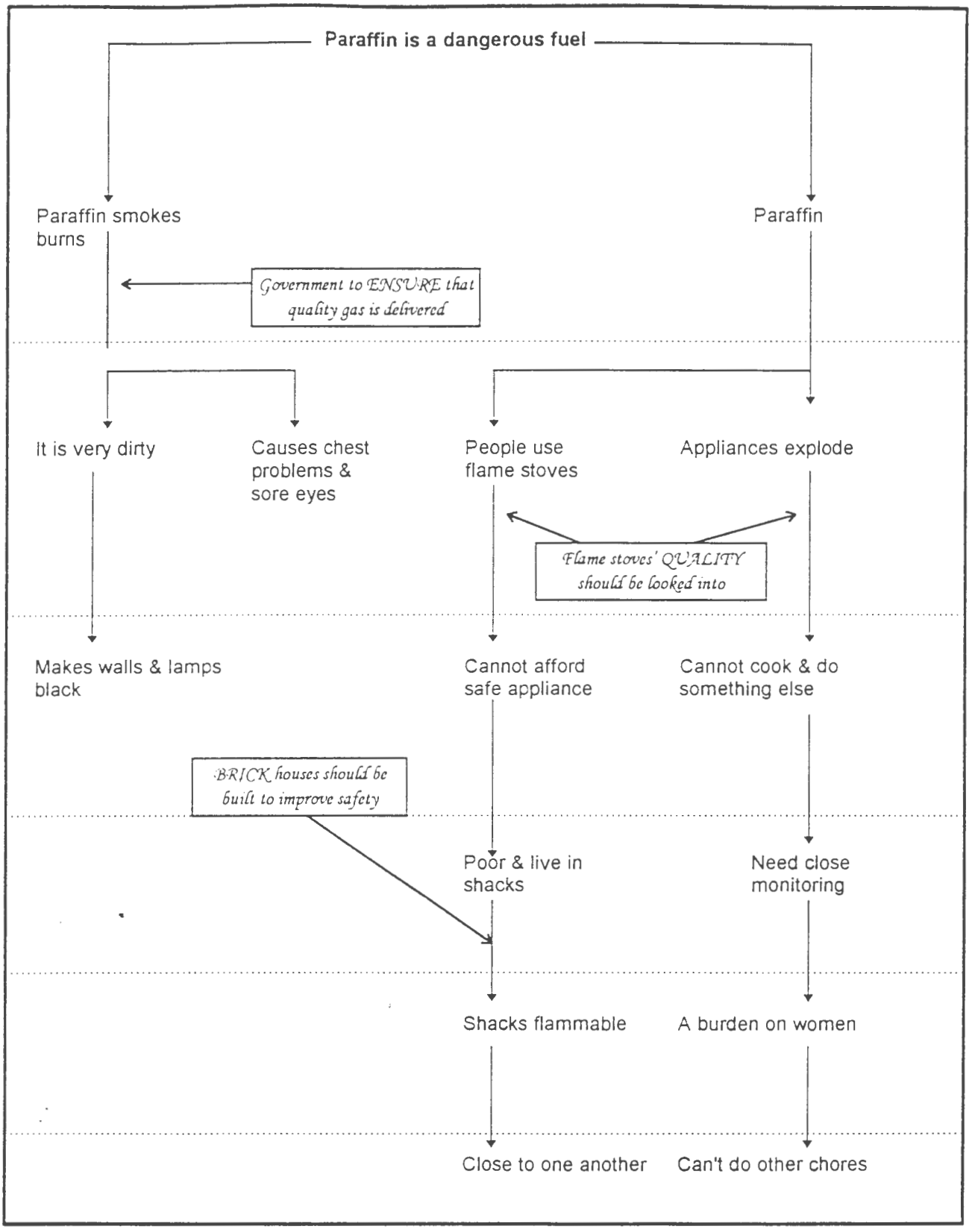


Table 7.5 Paraffin chain - Site B

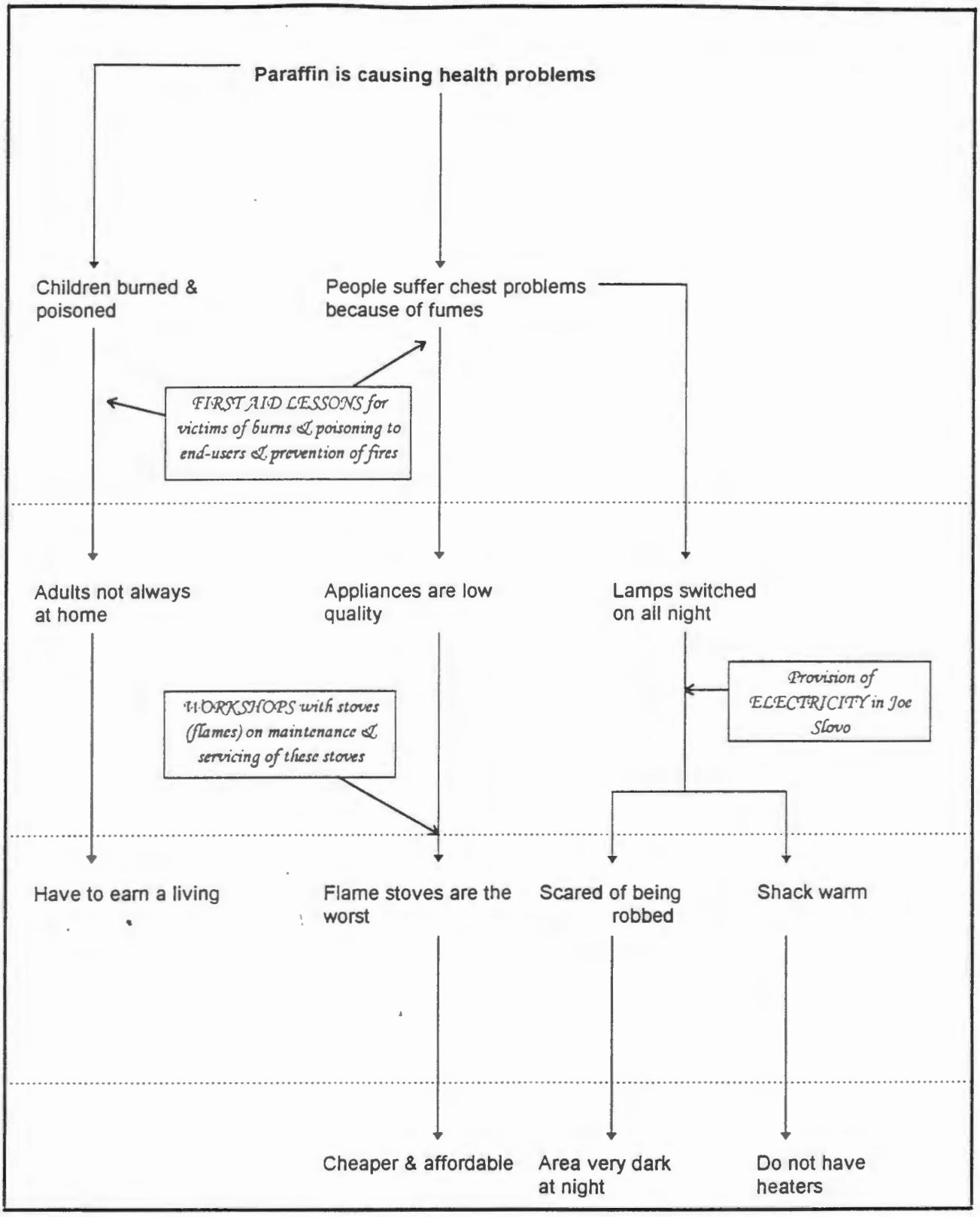


Table 7.6: Paraffin chain - Joe Slovo

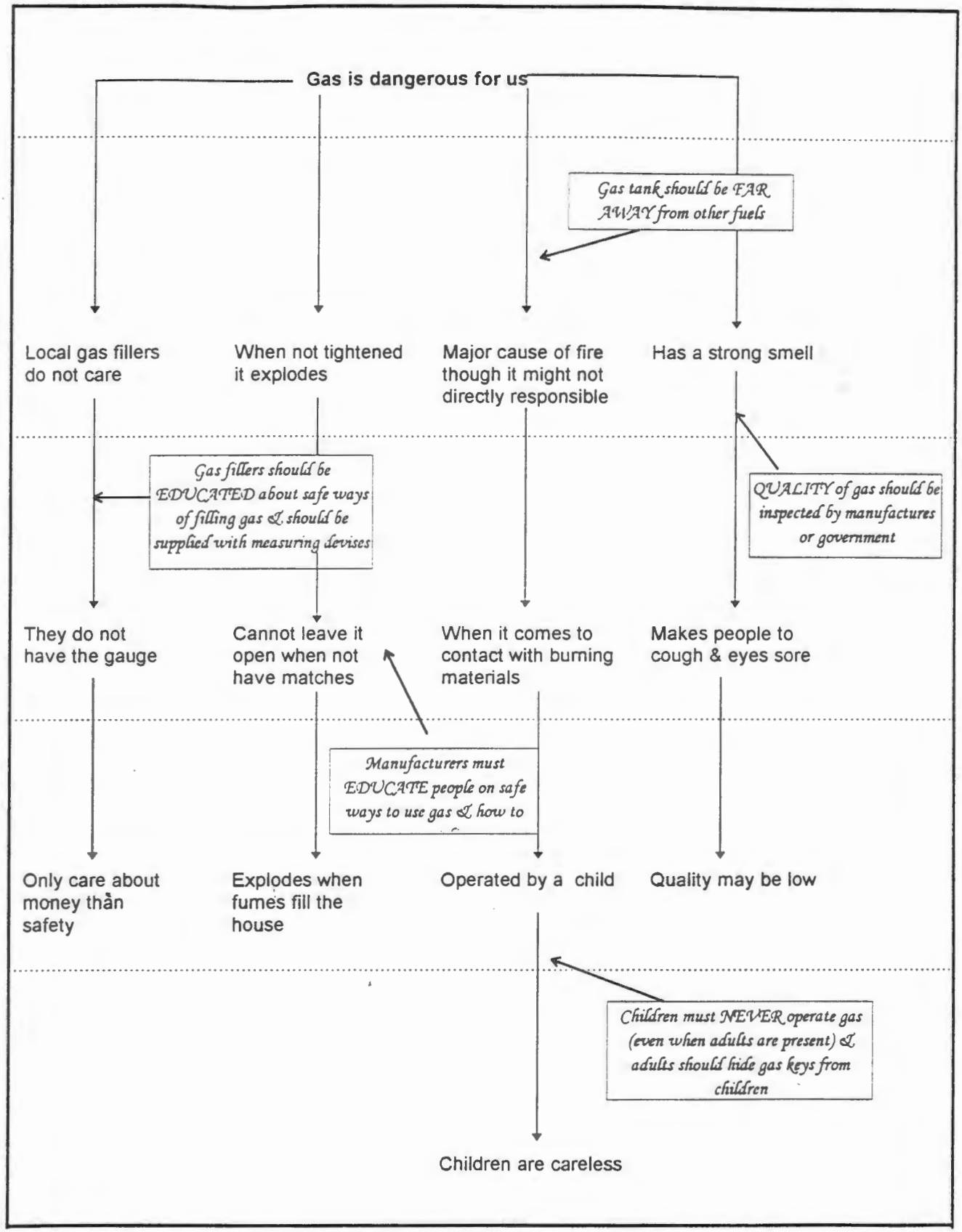


Table 7.7: Gas chain - Site B

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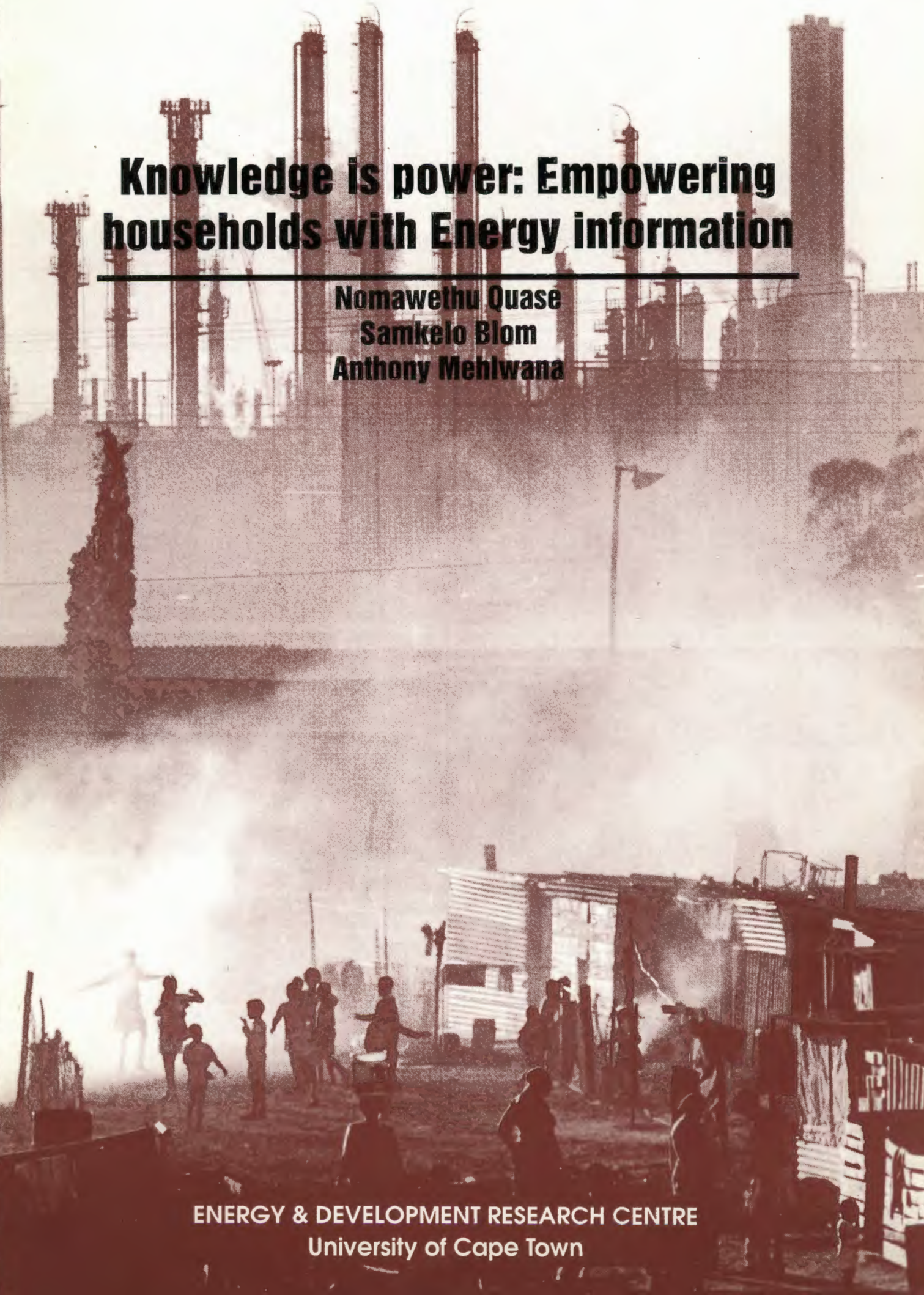

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Nomawethu Quase
Samkelo Blom
Anthony Mehlwana

ENERGY & DEVELOPMENT RESEARCH CENTRE
University of Cape Town