A question of power: the electrification of rural households

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ABSTRACT

This study examines the notion that current energy policy and implementation initiatives contain implicit and explicit assumptions about the nature and status of rural areas, the rural `household', rural development and rural poverty – assumptions which have an important influence on the choice and level of energy services currently offered to rural people.

It attempts to interrogate some current rural development perspectives, national policies and development practices. Theoretical frameworks which engage with the practices which maintain the political, social and economic subordination of rural women are used as a particular resource. Thus `ways of knowing' – the politics and practices of representation implicit in both research and policy frameworks, as well as in the discourse of development planners and practitioners – are also discussed.

Mrs Mohlamonyane of Moutse in the Northern Province is a fictionalisation of a real person; her imagined life becomes a window through which to visualise the energy experience of an important stratum of the rural poor. Mrs Mohlamonyane's context, energy needs, and decision-making power inside and outside the household are discussed.

The study attempts to demonstrate that the kinds of questions that should be asked of Mrs Mohlamonyane by an electricity utility can only begin to be formulated when the meaning of `rural' in the South African context and the current solutions to poverty are interrogated. The study discusses some of the frameworks used by policymakers, researchers and implementors to understand these patterns, and asserts that electrification is a political intervention at national, local and intra-household level.

Mrs Mohlamonyane is unlikely to use electricity for all or most of her energy needs. She cannot afford to pay for enough electricity to change her experience of her life as `difficult'. She has a social and economic right to a limited-current (grid or solar) supply which will enable her to enjoy electric lighting and media, at a nominal cost. Other energy interventions are necessary to break the chain of her energy poverty.

In the rural population, Eskom has a new focus and new clients. Electrification is an intervention into a social process and a local politics. Electrical infrastructure, technology and appliances are means, not ends in themselves. Because of the diversity of rural poverty and the uneven social terrain within each rural settlement, this approach has to exist `on the ground' at the level of implementation, as a conscious methodology. Only then will the energy needs of Mrs Mohlemonyane and the very large group for whom she stands in this study be addressed in an appropriate, affordable and sustainable way.

CONTENTS

Terms of reference

1. To contribute towards the conceptualisation of a development framework for rural electrification, with a particular focus on households.
2. To analyse, draw conclusions and make recommendations about the potential role of electrification (grid and non-grid) in meeting rural development goals (policy and practice).
3. To analyse, draw conclusions and make recommendations about the extent to which a rural electrification programme can be motivated on the basis of its (qualitative and quantitative) contribution to rural household livelihoods, poverty alleviation, and quality of life.
4. To consolidate our knowledge of the impact, effect, and benefit of rural electrification on rural household livelihood (including energy) strategies.

Acknowledgments

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THE RURAL ENERGY CONTEXT

The constraints that energy poverty imposes on a development strategy are still invisible in the mainstream development debate. The ways in which energy needs are met has enormous implications for low-income households, but those householders themselves, unlike policy-makers, do not separate the urgent need for land, water, housing, energy services, education, health, transport and employment in a sectoral way (HEAT; 1996b).

'Energy issues' are difficult to isolate from the challenges to sustainable livelihoods represented by general conditions of poverty and deprivation. What are the implications for policy-makers of the fact that at least 15 million women (and child) hours per year are spent on fuel collection in South Africa – between five and 20 hours per week per individual (Ward 1994). How does one work out the parameters of energy well-being for millions of people? How do people make the transition from this context to `consumer' energy services? What does it mean for the economy in general that fuel collection is not seen as a profound social and economic cost? What does it mean for energy planning that much of this work is done by women?

We do know that the consequences of energy choices are profoundly gendered and that they affect household members in different ways. Amongst the reasons for the 'invisibility' of energy is that, although men and children are involved in fuel-related work, management of household energy needs is 'women's work' and, in keeping with the lack of recognition for women's (and children's) labour generally, inadequately recognised. As Ross (1993: iv) warns, using gender as the only or primary lens[1] obscures other, equally important relationships around fuel – in particular, the fluidity of labour allocation to reproductive fuel-related tasks such as wood collection, washing and cooking; and the relative wealth of households, as well as the differential status of individuals within households. Fuel

> is used as a mechanism to create rights and obligations, to cement relationships and to sever them. Rather than being simply the product of women's interaction with fuel, all fuel related activities have social meanings (ibid).

This study proceeds by asking questions, always with the real choices faces by rural people in the foreground. These in turn generate crucial questions for energy planners. Can rural electrification substantially alter rural energy poverty? Is electricity an appropriate, affordable, healthy and safe satisfier of rural energy needs? How significant is electrification as a factor in meeting overall rural development goals? To what extent can the rural electrification programme be motivated by its contribution to rural livelihoods, poverty alleviation and quality of life?

This study attempts to consolidate current information on the impact, effect and benefit of rural electrification on rural household livelihood strategies. It begins to conceptualise a development framework for rural electrification, based on the real needs of particular households. Based on this framework, it attempts to recommend a framework for implementation.

The promise of electrification

> Electrification is one of the shortest and most effective routes to dramatically raise the quality of life of the mass of the urban and rural poor (Petersen, B;1992).

This statement was made in 1992, before the election, before the RDP , and before the difficulties of integrated development planning and implementation were beginning to be

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[1] 'Forms of difference in human social life – gender, class, race, culture, history, etc – are always experienced and constructed and mediated in interrelation with each other. If we establish the a priori dominance or significance of one particular form of difference in our theoretical frameworks, then we automatically run the risk of ignoring others... This is because it is quite clear, if we take the example of gender, that logically there can be no way of experiencing gender difference in some moment prior to the experience of other forms of difference' (Moore 1988: 196).

apparent or acknowledged. The speaker was a Cosatu official and he spoke without proof or the need for proof. This is an example of what the public view of the benefits of electrification were at that time, and may still be.

In post-election South Africa a historical conflation of two separate issues has occurred: the need for the provision of `energy services for development' to the majority of the population (the household sector), and the provision of electricity as one satisfier of energy needs as part of the electoral promise of the ANC to redress energy inequity. Eskom, an electricity Utility with no experience of integrated energy planning, was mandated to deliver household electrification, although domestic electrification of the urban and rural (black) poor had been initiated five years before the first democratic election, in 1989.

After the elections, Eskom set itself a target of 1.75 million connections by the end of 1999 (or 300 000 per year) as part of its contribution to the Reconstruction and Development Programme. In 1995, 56% (258 346) of a total of 463 633 connections were `rural' (Steyn 1996) in the South African sense; up from 33% in 1995. (The definition of rural is explored later in this study.) This is a considerable achievement of delivery.

MRS MOHLAMONYANE: `THE RURAL POOR'

Far away from the rural electrification debate are the rural poor and their energy needs as articulated by Mrs Mohlamonyane:

> This is my everyday work: to go long distances to fetch water and another distance to fetch wood. By the time you arrive home it's late. I start to cook supper. I always eat supper after 9pm, never at 6 or 7 o'clock. My children eat their supper in the morning because they sleep before it is ready at night. When my children come back from school they find that I have already made my second trip from where we fetch water. I find life very difficult here.

The life of Mrs Mohlamonyane is fraught with difficulties. Energy poverty, expressed as the need to fetch wood from long distances is an important constraint on her livelihood strategy, but clearly not the only one. How would electrification of her dwelling improve the quality of her life, and the life of her children?

Mrs Mohlamonyane of Moutse is a real woman who is fictionalised throughout this study. I use Mrs Mohlamonyane (rather than `rural people') as a discursive device to indicate gender (and class) as analytic variables rather than to pinpoint energy as a `woman's issue' or to categorise `rural women' as an undifferentiated group. After all –

> The problem with this [seeing women as an undifferentiated group] is that it assumes men and women are already constituted as sexual-political subjects prior to their entry into the arena of social relations. Only if we subscribe to this assumption is it possible to undertake analysis which looks at the `effects' of kinship structures, colonialism, organisation of labour etc on women, who are defined in advance as a group. The crucial point ... is that women are produced through these very relations as well as being implicated in forming these relations. (Villareal 1992; emphasis added)

This statement applies directly to the possible `effects' of electrification on `rural women'. There are more women than men in the rural areas, and women as a group are poorer than men (Udjo 1997). In South Africa the contemporary version of apartheid is the gendered allocation of resources; its major indicator is the social and economic status of rural women. Mrs Mohlamonyane is at the poorest end of this spectrum.

However, processes of rural dispossession and the destruction of livelihoods are not specific to South Africa. It is in this sense that comparative development literature is important. Wee (1995) states categorically that in all countries, women have fewer or no land rights, fewer economic rights, fewer legal and customary rights, fewer social and cultural entitlements that give a sense of well being and self worth, such as access to ritual spaces or bodies of knowledge like formal and adult education – and that in poor countries `women end up having no land, fewer livelihood sources, less food, less health care, less education, and lower

returns for their labour.... In the global estate, women are the workers and the squatters' (Wee & Heyzer 1995).

Needs and affordability

Which of Mrs Mohlamonyane's household energy needs could and should be met by electricity in order to significantly change her experience of her life as `difficult'? What level of service should she receive? Are current-limited supplies or solar systems more appropriate for Mrs Mohlamonyane's home?

To better understand energy needs, May suggests that the following distinctions may be useful: energy use as a survival strategy; for reduction of costs; to increase comfort and pleasure; and the use of energy sources that are versatile and which maximise spinoffs (cited in Ward 1994). In real life it is obviously difficult to separate these aspects out – trade offs are necessary.

Comfort and pleasure, the production of social meaning, even for the very poor, sometimes takes precedence over `commonsense economies'. Annecke (1993) has shown in her peri-urban study that women living in an informal settlement chose to make more expensive home-made bread rather than buy cheaper and possibly more nutritious bread from the shop, because they privilege the production of an ambience of nuture and care for themselves and their children – the good smell and the pleasure of eating hot bread – `good mothering'- over economy or convenience.

The convenience of electricity – its capacity to increase comfort and pleasure and thus to reduce the difficulties of life – depends on the intensity and frequency of its use, and the end-uses to which Mrs Mohlamonyane can afford to put it *without intensifying her economic marginality*. This depends on a range of other factors: whether she receives a current-limited supply or a 20 Ampere supply; a solar or a grid supply; the extent to which her house is wired; her access to efficient appliances which will not electrocute her or her children; whether she will need to continue to use and pay for a range of other fuels and appliances; and, centrally, whether she can afford to use electricity for all or most of her cooking (and other thermal needs such as heating water and space) and thus reduce her reliance on wood fuel.

Methods of payment

How much should (or could) Mrs Mohlamonyane pay for electricity? Should she pay a flat monthly rate or use a prepayment meter?

From Mrs Mohlamonyane's point of view a major consideration is her intermittent and inadequate cash flow.[2] The next consideration is what electricity will bring her. Electricity costs are low for lighting, media (radio and TV) and ironing. Electric refrigeration is also much cheaper than gas refrigeration but the high initial entry cost of appliances may limit the use of it (Soul City 1996).

Davis (1995) points out the direct financial benefits of electrification; lighting, radio, television and ironing are low-consumption, high-value uses for electricity. Thermal applications such as cooking, space heating, and water heating are high consumption applications where the cost of alternatives is relatively low: `The switch to electricity for these end-uses is slower and the savings to users are smaller' (Davis 1995: 13).

The tables below – *What electricity really costs*, and *Different energy and different costs* – were designed to accompany the Soul City television series in 1997. These costs assumed a 20 amp supply, using the old Homelight 1 tariff of 26.84c per kWh. (The new tariff is 28.18c per kWh).

Davis and Ward (1995) found that 74% of all households use candles for lighting – and that as much as 50% of electrified households continue to use candles, spending on average R7 a month on them. If we compare this to the R10 a month non-electrified households spend on candles, on average, this points to a more intensive use than mere backup of electricity. It

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2 The lowest income group spend 7.2% of their total income on energy. The highest income group spend 5.5% of their income on energy (Davis & Ward 1995: 9).

suggests that only one room in the house is electrified, due to lack of wiring, or that the electric light is used intermittently, for one reason or another.

Will most rural people be willing and able to pay a flat rate of between R8 and R15 per month for a current-limited 2.5A supply? Should all those who can afford it pay a R200 connection fee for a 20A supply and a prepayment meter, which will charge them for all the electricity they can afford to use, at a tariff of 28.18 cents a kWh?

James found that in many newly electrified situations, because of the flat rate tariff arrangements, the very poor were in fact spending more on fuel than they were before they were electrified. This is because of the restrictions on the use of electricity: either they could not utilise it every month, because of the irregularity of their income, or could not afford the reconnection fee, or did not have the appropriate appliances, and so were paying for electricity as well as using other fuels – candles for lighting, paraffin and wood for cooking (James 1997).

Might electrification intensify Mrs Mohlamanyane's economic marginality?

There are hidden costs of the electrification process as a whole which may impact negatively on the rural poor. Regular payment for the service itself may represent an opportunity cost for rural people, leading to under-utilisation of the investment and a debt cycle. The costs of household reticulation and electric appliances, which will still have to be backed up by non-electric appliances and alternative fuels, may also limit the practical value of the resource at household level and force bad choices in which, for example, rather than lose the entire investment in the appliance, television hire purchase payments are privileged over food. Because of the intermittent nature of many rural incomes, the hire purchase trap awaits many rural `customers' of electricity. A further cost beyond Mrs Mohlamanyane's means may be wiring. We cannot assume that the electrification of a domestic unit equals the domestic use of electricity. Safe wiring within a house is as necessary as the ready board on the wall.

How affordable is wiring? Will a large proportion of people be unable to afford to wire their dwellings? It is difficult to generalise from the unevenness of the terrain. And – if so – is this an argument against household electrification, or an argument for a financing scheme for wiring? Electric lighting is cheap, extremely efficient and very safe compared to candles, paraffin lights and open fires of any sort. But is one lightbulb electrification? Under what conditions will and can more lightbulbs replace the expensive and dangerous candles for doing homework, for getting up to the baby in the night? This depends on the presence or absence of wiring.

Electrification, whether solar or grid, brings a minimum: lighting and access to television and radio. The media enormously widen the horizons of the possible. Compared to electricity, batteries are expensive, and there is a significant markup of price from wholesalers through large shops and small shops in rural areas. The rural consumer may end up paying R1,50 to R1,80 for a torch battery, R7,20 for a PM9, and R13,00 for a PM10 (HEAT,1996 b). Clearly it is very much cheaper to use electricity – a radio used for four hours a day will only cost 50 cents a month. However, Davis and Ward (1995) speculate that electrification may intensify the use of media rather than ultimately `save money'. There will be even higher costs if buying a TV is factored in, or buying a radio. The pre-electrification rural population have invested in battery-operated radios over a long period. Media may be a social good, depending on the access to the media and the nature of the programming itself. Good music, good talk, civic education, and general news and information are important to Mrs Mohlamanyane and her children.

Cooking with electricity

Will Mrs Mohlemonyone, who is acutely aware of her fuel needs, be able to or want to cook with electricity?

Cooking is a central nexus of reproductive and productive activities and a centrally important daily ritual. Not to be able to cook every day (due to time, fuel or food shortages) is a serious rural stress indicator. Cooking occupies a central place also on the continuum of food production and preparation – `modernity' has seen a shift where less time is spent on

producing and processing food, and more time (money) on buying in and conveniently cooking it. But the energy transfers remain stable.

Electrical cooking is expensive. Though it is clean (at point of use) and extremely convenient, there are huge hidden costs on both the supply and demand side of electrical cooking. Unless she has a 20A supply, Mrs Mohlanyane will not be able to use a hotplate or an electric stove for some or all of her cooking needs. Before even considering electrification, she will have had to have made the difficult transition to earn the cash to be enabled to transform to pay for her appliances and electricity supply, at whatever subsidised rate the utility decides.

In Mrs Mohlanyane's current difficult circumstances, fuels which can be used for more than one service will always be attractive, particularly if the opportunity cost is low. Wood in a three-stone fireplace will heat space, boil water, cook over a period of hours if necessary, and will even give some poor quality light. `Higher-income households' are much less likely to collect wood (as opposed to buying it) (Davis & Ward 1995: 11). But where people are very poor, and where there is access to an adequate wood resource, wood is likely to continue to be used for a range of energy services, whether dwellings are electrified or not. It is significant that the rural women who attended the Energy White Paper Conference in Pretoria in 1995 lobbied for wood as their fuel of choice: `We like wood', they said determinedly.

Mrs Mohlamonyane's preference for wood as an energy source is very likely to be based on an acute (because experienced daily in her body) sense of energy economics. Energy policy needs to hear the `we want wood' preference. Electrification costs should be compared with initiatives to promote community woodlots, co-operative buying of wood. and appropriate chimney and stove design – which would make a valuable resource such as wood a healthy as well as an economically sensible choice of fuel.

The current-limited supply option will get electricity to more people. Should Mrs Mohlamonyane be offered the choice to cook electrically, if not now, then in the future?

Eskom has experimented with current-limited supply at Tambo in the Eastern Cape and Mafefe in the Northern Province, in an effort to reduce the costs of electrification while keeping the benefits available to as many people as possible. James (1997) concludes that current-limited supplies should be an option in a range of supply options; the social landscape, in other words, is as diverse as the topography, and this fact must be reflected in implementation strategies which accommodate different needs. From an end-use perspective it seems that the role of electricity in cooking is the critical factor in the decision-making process about current-limited supplies. James (1997) is succint about the current solar alternative:

> If we compare the 2.5A supply option with the provision of solar electricity for lighting, media and refrigeration, it is clear that, without the same amount of subsidisation, solar has very little chance of competing effectively with grid electrification.

Even if a level of supply is chosen which allows the use of electrical cooking appliances, now or in a rosier future, there is a danger that methods and levels of payment, however subsidised, cannot be sustained within the periodicities of rural income. A regular flat rate payment, for example, unless it is absolutely nominal, is less appropriate for extremely poor people than prepayment, which offers greater flexibility, allows intermittent use, and confers the benefits of greater choice and control over the resource (James 1997). That this option is more expensive (in financial terms) for the utility is undeniable. However, as discussed later, electrification is a political as well as a service intervention. Policy-makers also have to consider the political costs of non-intervention.

Appliances: cost, safety, efficiency

For Mrs Mohlamonyane to use the electricity supplied to her dwelling, she needs appliances. Will she be able to buy appropriate, affordable, safe and efficient electric appliances? Are such appliances accessible to rural people.? Does Mrs Mohlamonyane have access to a regular cash income which allows her to safely enter hire purchase agreements, or to maintain membership in a `stokvel' over time?

> The low consumption by newly electrified households poses the biggest threat to the viability of the programme, as a breakeven consumption of 400kWh per month is required. This emphasises the need for strategies to make electrical appliances and their use more affordable for these new consumers. (HEAT1996b)

Without appliances, electricity is useless. The question of rural aquisition of electrical appliances is complex. The life cycle cost of an appliance, which takes into account initial cost, replacement cost and fuel (running) costs, is nontransparent to even experienced electricity consumers, in part because such efficiency calculations are new in South Africa (HEAT 1996). For the newly electrified, initial cost is likely to be an overwhelmingly influential factor in the choice of appliances, given the relative poverty of the rural purchaser, and the likelihood of being forced to pay (in the absence of any other financing arrangement) through hire purchase financing roughly 150% (over 24 months) of the cash price of an appliance.

Adequate national efficiency standards will have to be set and enforced if the rural (and urban) poor are not to end up with appliances which, in order to lower initial costs, scrimp on insulation and safety features. Thorne (1996) has drawn attention to the thinness of the insulation in the cheapest electric refrigerators and stoves now being produced to take advantage of the important new appliance markets being opened up by household electrification.

Many members of the urban group consulted by HEAT in 1996 were using `icargo' appliances – black market or stolen goods – or very old and probably inefficient cast-offs from the urban middle class, or were caught in the hire purchase trap, paying a high price for inferior, bottom of the market appliances. These may be urban strategies, but, given urban\rural linkages, may not be confined to urban areas. There are both advantages and social and individual costs to such strategies; the risk of buying goods which, though cheaper, come without a guarantee and might not work for long or at all, and the difficulty of fixing and servicing them, despite high levels of `small workshop' ingenuity in the squatter areas. Appliances of a similar quality and provenance will no doubt land up in the electrified rural areas with the same associated risks and costs.

In general, design and safety features of popular appliances have been greatly neglected. Although paraffin stoves are the most widely used energy appliance in South Africa, and will be for the forseeable future, there is still no SABS-approved safe and efficient paraffin stove, despite the high incidence of accidents, house fires and burns caused by their frequent explosion.

It is worth remembering that, even in electrified households, multiple fuel use continues – Davis and Ward (1995: 13) report 64% of their rural survey respondents using a combination of wood, paraffin and electricity, and 25% using a combination of coal, paraffin and electricity. In Loskop, Annecke (in Davis 1997: 13) notes that although ownership of appliances is unusually widespread – 80% of respondents owned a hotplate – they are used in conjunction with wood and paraffin. Interestingly, he found that, while 65% of respondents owned a television set, only 60% used an electric kettle. Since kettles are far cheaper than television sets, and some might think more useful (for heating water for cooking and washing) this priority of aquisition may indicate a general valorisation of TV's central importance to all members of the domestic unit, or reflect the outcome of a household bargaining process won by the individual with the greatest power over cash income.

Appliance ownership is obviously strongly related to income (Davis 1997: 14). The necessity for financing arrangements to assist low-income householders to avoid the serious consequences of the double bind represented by poorly designed, expensive electrical appliances has been pointed out by many researchers. Local institutions such as stokvels should be encouraged and supported.

Equally important to the safe and informed use of fuels and appliances is civic education and mass information dissemination, through formal schooling, the media, or dedicated adult education initiatives which build public capacity to identify good energy appliances and to use electrical appliances safely. The increasing practice of informal (that is, stolen from Eskom) self-electrification needs to be urgently addressed, as a pressing health and safety issue. An

example: the inhabitants of Settlement X in Northern Province have organised their own electrification project. A cable snakes up the hill from the nearest power line; the shacks have electric lighting and a mix of shop-bought and self-modified electrical appliances is in use. Clearly there is great ingenuity at work here, and an impressive degree of skill. The power supply is `free', but the safety of the supply is not assured. It is unclear how widespread the practice of self-electrification is in rural areas – we know it is common in urban informal settlements (HEAT 1996). Since electrocution and electrical fires caused by faulty wiring are the main dangers of electricity (even where supplies are officially `safe'), this anecdote underlines the urgent need for greater public awareness of the nature and safe use of electricity if a new and lethal range of household energy-related accidents and mortalities are to be avoided.

TWO OF MRS MOHLAMONYANE'S MAJOR CONCERNS – HEALTH AND EDUCATION

The discussion so far has been confined to the basic questions related to electrification that Mrs Mohlamanyane might ask. In the next few pages we investigate the circumstances of her life more thoroughly, using the available published data. Two major concerns for Mrs Mohlamanyane's life will be considered in more depth, namely health and education, and the effects of electrification on them.

Will the electrification of Mrs Mohlamonyane's house substantially improve her physical and mental health and the health of her children? Will electrification have an effect on her physical safety, her self esteem, or her status as a woman at household, community or national level?

As long as people use open fires and paraffin for cooking, and candles for lighting, injuries and mortalities caused by burns, explosions of appliances and house fires will continue.

If household electrification will enable people to cook with electricity; domestic air pollution will be greatly reduced with a concomitant reduction in the incidence of acute respiratory infection suffered (often fatally) by infants and by women and children (who are assumed to do most of the cooking, or to spend most time in the environment of smoky fires). At present, acute respiratory infection is, along with diarrhoea, the greatest cause of infant mortality in South Africa (Ross et al 1997).

Defining health

It is instructive to look back at the beginnings of the primary health care movement 20 years ago. In 1978 the World Health Organisation and UNICEF sponsored an International Conference on Primary Health Care in Alma Ata, USSR. The Alma Ata Declaration, signed by 130 countries, subscribed to the goal of `Health for all by the year 2000', and defined health as `a state of complete mental, physical and social wellbeing'. The declaration has been an extraordinarily influential document in the development of the discursive and other practices of primary health care (PHC). It is worth reassessing how many of the original impulses have been retained as development goals in the nineties – and which have been forgotten.

The Alma Ata Declaration emphasises the importance of strong community involvement and selfdetermination. Good health, says the document, is not a product that can be delivered in discrete packages (contrast this with the current South African emphasis on bricks and mortar delivery). Instead, health is a process which people themselves need to take charge of. Indeed, for individuals, families, communities, and nations alike, direct involvement in the decisions that influence their well-being is part of what it means to be healthy. Health and self - determination, then, are inextricably intertwined (Werner & Sanders 1997: 27).

It is unlikely that there will ever be enough professionally trained doctors and nurses to meet everyone's health needs. Thus there needs to be a critical level of civic and community knowledge and responsibility in order for improvements to health to be sustained. This is the justification for popular education initiatives which build people's capacity to take informed responsibility for their own health and welfare.

Then, of course, better health depends largely on improvements in living conditions, especially with regard to nutrition, access to enough clean water close enough to its use, and safe disposal of human and other waste.This is particularly important in high density conditions such as squatter and refugee camps – what Sanders and Werner refer to as the `septic fringes of the cities' – where cholera and other fatal diarrhoeal diseases are making a world comeback in the 1990s.

At Alma Ata it was decided that health and wellbeing are shaped by the conditions of social life – including, importantly, access to political influence and power. Implicit in this is a challenge to the view that health is produced by health care services such as clinics and hospitals. If health is `a state of complete mental and physical well-being', then it is a complex product. In South Africa, in the ex-homeland rural areas, the uneven health terrain has been shaped by the evils and inequities of the apartheid system. Rural people's health has been damaged by not having enough good food, poor access to decent housing; too little land, too few opportunities to earn a living in satisfying and productive ways; poor access to clean water, safe sanitation, good-enough education; and insufficient essential energy services.

While resources and practices at the level of the household are obviously of the first importance in terms of the production of health, *conditions at the level of the household are shaped and constrained by the social, economic and political circumstances of rural life.* It is precisely because of these conditions that the existence of a range of emergency services and practices is as important as working on the production – through integrated rural development – of good mental and physical health at the level of the household.

The Community Health Research Group of the Medical Research Council, aiming to quantify the health benefits of electrification and provide a scientific foundation for and equitable energy policy that promotes community health and safety, completed a study of the effects of electrification and health found that the health benefits of electrification are `extensive', though `sensitivity is required to the implications of electrification for the very poor, marginalised and underserved' (Ross et al 1996).

Energy-related ill health

The immediate presenting causes of energy-related ill health or mortality at the level of the household are burns, respiratory illness, and paraffin poisoning. South Africa's burn mortality rate – caused by household fires related to accidents with candles and paraffin stoves, childhood burns and scalds, and uncontrollable fires in high density informal settlelements – is approximately four times higher than that of the industrialised world (Ross et al 1996). Children still pull pots of burning water or oil upon themselves in electrified houses, and they drink household poisons such as paraffin even in the low-density high-income white suburbs (as the poison register at Red Cross Children's Hospital shows), with the same serious but usually nonfatal results.

It is not woodfuel per se which causes respiratory illness and eye conditions, but cooking on open, chimneyless fires in domestic spaces which are poorly ventilated, and may not even have a thatched roof through which smoke can filter.This indicates that there is an equally important need for the design, promotion and financing of efficient and safe woodburning and paraffin stoves, the building of chimneys and the inclusion of ventilation and safety features in new housing, and the continued promotion of the correct way to treat burns (and paraffin poisoning). These technologies would be an effective and cheaper way to prevent burn injuries than electrification.

In other words, while it seems that electrification is the quickest and easiest way to break the chain of causes and consequences of energy-related ill health, the situation is in reality far more complex. Changes may be needed in both technology and social custom and practice.[3]

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[3] Health is *experienced* at the level of the household, but is *produced* in social conditions outside of the household's choice.

Electrification and human fertility

The reduction of fertility rates too has been associated with rural electrification (Sokari-George & Emereum 1991; Barnes, cited in Ross et al 1997: 3). Why the reduction of fertility is assumed to be an unambiguous benefit in all circumstances is not clear, nor, as Ross et al (1997) mention, is there proof that rural electrification is causally connected to such an outcome, desirable or not. Desirable to whom? Medical personnel at the Spilhaus Centre at Harare Hospital, funded by USAID to help implement `family planning' (population control) found that many rural women presented with urgent problems of infertility – urgent because of the severe social consequences of infertility. Migrancy is strongly associated with fertility problems because sexual access to a husband may be too infrequent to coincide with ovulation and because migrancy is associated with high rates of sexually transmitted disease (STD) which may cause infertility in women (Fawcus 1997).

Emergencies and distance

When is an accident a disaster? The possibility or impossibility of effective emergency health care is an important indicator of well being at the level of the household. This is where the health of rural household members, besides the results of their limited fuel choices,is further compromised. The accessibility of effective emergency health care is not simply a product of physical distance from the nearest secondary hospital but is mediated by the presence or absence of communications, affordable transport, and the capacity of hospital personnel to deliver a good-enough emergency service. Ross et al (1997) have looked at the contribution of electrification to the delivery of adequate rural health services at the level of health centres.

At the level of the domestic unit, the accessibility of emergency services is a life and death matter, particularly with regard to reproduction – pregnancy, abortion, miscarriage and childbirth.[4] Deaths related to pregnancy could account for between a quarter and a half of all mortalities among women in the reproductive age groups in developing countries and in certain places represent the leading cause of death for these women. (Mbizvo et al 1992). For many rural women, then, pregnancy is a recurring life-threatening condition, the risks of which rise with every episode. Most maternal mortality figures are taken from hospital based studies which mask the magnitude of the problem; community data is very hard to access. However, hospital based statistics of maternal morbidity show the following frightening picture (figures are given per 100 000 live births reported):

Country	*MMR*	*Location*	*Year*
Zimbabwe	168	Masvingo Hospital	1993
Tanzania	520	Songea Hospital	1991
Egypt	368	Upper Egypt	1992
Malawi	409	Southern Malawi	1992
Ethiopia	566	Addis Ababa	1985
Hong Kong	5	National	1989
Cuba	31	All hospitals	1985
England and Wales	12	National	1982
Scandinavian countries	3 –11	National	1991

Table adapted from Mbizvo et al (1992)

In South Africa, national notification of maternal morbidity has just begun. The hospital-based figure for the Cape Town Metropolitan area – one relatively well serviced with primary, secondary and tertiary health care centres – is 30 per 100 000 live births. The first South African community based study of maternal morbidity has just been initiated by the Women's Health Project. The researchers hypothesise a national figure of 200 maternal deaths per

[4] While reproduction may not be intended and may be experienced as a misfortune, it is not an `accident' but one of the great reiterations of domesticity.

100 000 live births, with the majority of women dying as a result of becoming pregnant coming from rural areas remote from secondary health centres – that is, health centres which offer emergency surgical procedures such as Caesarean section or hysterectomy (Fawcus 1997). While perinatal mortality is unacceptably and tragically high in South Africa (even the under-reported data yields a national figure of 80 infant deaths per 1000 – that is, eight newborns out of every hundred die within the first week, or are born dead), a maternal death is a disaster for kin and community as well as for the individual.[5]

Sixty-one per cent of the rural population of South Africa (as defined in the 1997 October Household Survey) are said to live five or more kilometres from the nearest health centre (Udjo 1997). Because of their current social, political and economic immiseration, many rural women will be at particular lifethreatening risk through reproductive emergencies.

The contribution of electrification to the upgrading of the capacity of primary health centres to offer adequate first-level care has been described by Thom (1997) and Ross et al (1997). Clearly the development of efficient communications to link rural people to appropriate emergency services which may well be based at some distance because they cannot be duplicated at local level is equally important. Emergency transport needs to be community based – `collective community based initiatives for organising urgent transport' (Mbizvo et al 1992: 60) rather than hospital-based alone, since an ambulance can travel down only one radial at a time. Communication without transport is pointless, and the hiring of private vehicles is prohibitively expensive. Communications and transport thus define the `remoteness' of rural areas by mediating the relationship between domestic units and centralised resources. These are major determinants of the quality and even the maintenance of life in rural households.

Given the current constraints to her consistent use of household electricity, and Mrs Mohlamonyane's current political, social and economic immiseration, rural household electrification is of minor importance in the production of the physical health of her household.

Mental health and self esteem

The mental health of very poor people is compromised by the sheer stress of survival. Depression, somatised as a range of physical symptoms, is a major presenting cause of illness at urban clinics and hospitals (Albertyn 1997). There may be great benefits to individual and community mental health which result from the potential of household electricity to provide convenient and cheap access to leisure activities such as watching television. How do we assess the mental health benefits of access to electric lighting?

Electrification is a potent symbol of access to `development' and `modernity'. The perception of being valued enough to be electrified – with the implicit promise of other improvements to follow – should not be underestimated. The belief that change is possible, and that its symbol is the delivery of household electrification, may be of great psychological benefit to Mrs Mohlamonyane in her `difficult' life. Rural household electrification, then, may be an important investment in the `politics of hope'; that which sustains people and continues to encourage positive action towards social transformation.

Electrification, education and the media

Will electrification improve Mrs Mohlayanyane's access to formal and informal education? Will it improve her children's access to educational opportunities?

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5 Many perinatal deaths are caused by complications associated with low birth weight. (Fawcus, personal communication, October 1997). Neonates cannot regulate their own body temperature, and `getting too cold' can be fatal. Here domestic electrification may be helpful at an oblique angle, either by saving women's time and energy (less fuel collection) or by freeing up more wood (or money to buy paraffin) for space heating. However, electrical space heating is very expensive. At 26.84 cents\kWh – the Homelight 1 tariff – Thorne calculates that it will cost R41.87 per month to use a two-bar electric heater for four hours a day (HEAT 1996).

Electrification of rural schools is `a fundamental requirement for meeting key development priorities enunciated by the national and provincial education departments' (Gordon 1997: ii). However, successful electrification of schools depends on a number of factors. These include whether information about electricity and appliances is made available to teachers; the capacity of schools to aquire and use appliances, particularly computers; the incidence of vandalism and theft – that is, the school's capacity to retain equipment; and, last but not least, the capacity of schools to pay electricity bills. Other school-based development and welfare activities, school feeding and extramural night classes for adults are seen to depend on electricity (Gordon 1997). Where schools have no capacity for electrical cooking children may have to miss school to collect wood in order to cook the food provided by the Primary School Nutrition Programme.

Will lighting, educational television and radio programmes effectively improve the health of the Mohlamonyane household? What is the role and function of mass media in health education?

Mrs Mohlamonyane's children will probably find it far more convenient to study by electric light, should they wish to, and should they have the time, energy and resources. Mrs Mohlamonyane herself may be encouraged to attend adult education classes, community meetings or skills training activities in the evening if the school is electrified and it is safe to get there and back.

Integrated planning is all-important here. In Klipfontein in the Northern Cape[6], for example, the local authority decided to build the new solar electrified school an inconvenient kilometre away from the little settlement, up a small rise. The headmaster has valuable educational equipment to safeguard and the school is safely and thoroughly locked up when classes end in the afternoon. As a result, the school is not used as a community meeting hall or adult education resource in the evening, and its electricity supply is thus underutilised. Instead, community meetings continue to take place in the tiny community hall, by paraffin lantern and gas light. Slide shows and films are expensively powered by car battery.

Access to formal and informal education at home depends on the quality of and access to the mass media, the presence or absence of adult education and training initiatives in Moutse, and the different motivation and interests of Mrs Mohlamonyane and the various people who live with her. Electric lighting is a boon to motivated students or self educators, but there is obviously no direct connection between provision of good quality lighting and its educational use.

Television is increasingly seen as an important source of entertainment and childcare, and there is social pressure to provide these good things of life. There is a certain ambiguity inherent in the national creation of a media `culture of representation' – a curious mix of worthy efforts to dispense information, news, education – and the creation of a media market; the reaching even unto Moutse of the `society of the spectacle' (Vaneigem 1994).

While national top-down radio and television programmes tend to reinforce the situationist slogan that `participation in an illusion is the illusion of participation' (Vaneigem 1994), the opening up of broadcasting which has resulted in a lively, localised community radio `movement' is a potentially exciting and radical extension of democracy – the opening up of the air waves to many different voices – even if, at present, the voices of young men are dominant. In fact, there is a rural radio station right in Moutse, run by the rural Women's Movement, where we first heard Mrs Mohlamonyane's voice. A radio station which is focused on her practical and strategic needs and welcomes her participation is an opportunity for Mrs Mohlemonyane to break her social and economic isolation and begin to involve herself directly in the decisions that influence her well-being. The contribution of electrification to household health through the extension of electrically powered radio and television media is also potentially very important.

The mass media could help to educate the general population to recognise the signs of obstetric and other medical emergencies at both household and `community' level. This is a useful role for local radio stations as well as national television and radio `edutainment' such

[6] In 1996 I facilitated a workshop for Operation Hunger.

as the Soul City initiative, which currently has enormous popular reach and valency (Moutse video on community radio).

We should treat cautiously, however, the extravagant claims that are often made for mass media's ability to change attitude and behaviour:

> Usually this belief is linked to a `slot-machine' model of communication that views people as the passive recipients of messages. It is assumed that if the messages are well designed and the medium accessible and suitable then people will respond appropriately....
>
> Human behaviour change is the result of a complex, intermeshed variables and is often part of a longer-term process.... [P]eople make sense of new information in the light of their own meanings, perceptions and cultural backgrounds.... [E]ven if mass media interventions do coincide with reports of behaviour change, (as happened with Soul City) it is extremely difficult to show that this is solely attributable to the media intervention (or that it will continue over the long-term. (Clacherty et al 1997)

Mass media, then, can provide a common frame of reference and play a catalytic role in raise awareness. Radio and television in particular can reach a very large number of people at relatively small cost, from the point of view of broadcasters. The 1995 IUPHC/Soul City campaign, for example, cost R8.2 million and reached more than eight million people. The CASE evaluation of the Soul City initiative claimed that 60% of their respondents remembered the test information six months later, and claimed they had changed some behaviour. Only time will tell what the long term effects of any media camgaign will be. The price of a negative media policy – `we do not use the media, because it is ineffective' – might be higher.

WAYS OF SEEING: POLICYMAKER, RESEARCHER, IMPLEMENTOR

The research and policy interface

One of the challenges of producing this overview paper has been the difficulty of bringing together qualitative work by energy researchers with the technical energy studies written in the quantitative discourse of planning (see Horvei & Dahl 1994; Davis 1996). The social scientists (for example, Annecke 1993; James 1997; Ross 1993), stress processes of fluidity, diversity, locality, strategy and multivocality – rich in description, they are poor in generalisation. The'obvious' solution – multidisciplinary team work – is not so easy. The anxiety inherent in such a project has been explored by Stokes (1994).

According to Marcus and Fischer (1986), twentieth-century social and cultural anthropology has had two primary concerns. One has been the `salvaging of distinct cultural forms of life from a process of apparent global Westernization' (with a conscious or unconscious bias against processes of `modernisation' and `development'); the other has been reflexive cultural critique which serves as `a description of the ways in which we cannot know' (Reynolds 1997: pers com). The `natural science of society' has changed with the political challenges to colonialism and postcolonialism. Social life, say the anthropologists, must be conceived of as a negotiation of meanings. For social planners and policy-makers, on the other hand, the emphasis is different. The task of ameliorating social evils is conceived of as possible and urgent, with strict time and cost parameters.

Policy formulation and social science are distinct discursive practices with very different aims and outcomes. Because current policy processes in South Africa tend to be `expert-driven', many social scientists have experience of both practices. However, these discursive practices are distinct. Each role brings with it different (and sometimes conflicting) intellectual and emotional demands.

'In role', policy-makers tend to an attitude of impatience with the perceived indeterminancy of the social scientists, their reluctance to draw practical conclusions from their thick descriptions of fieldwork which may take months or years, and their perceived distance from engagement with the pressing issues of the day. What makes matters more complex is that social life, unlike scientific fact, refuses to stand still. Social reality is always in constant flux and change and amongst the poor, significant changes occur very rapidly. An important issue for research, and also for policy, is the mis- or under-representation of the fluidity of life. The research moment reveals a certain situation. Even three months later, the situation may have radically changed. An example: between November 1996 and March 1997 a group of men in Vermaaklikheid had organised themselves into a `bouspan' and were able to tender for and be awarded small building contracts for holiday makers and others in the holiday town. The `bouspan' was reliant on one individual who could read and interpret building plans. The average income of the members of the `bouspan' during this period was R1200 a month. Three months later, the plan-reader had left, the bouspan had broken up, and these men were now reduced to part-time fishing and odd jobbing. Their regular incomes had disappeared, along with their capacity to budget or make regular payments for services (Ross 1997).

Policy nevertheless needs to be made. *The absence of a policy is the presence of a negative policy.*[7] While nobody, including policy-makers, can know except by experience what these changes mean, the changing of a horizon of possibility changes the way people construct the narrative of their lives. For example, when the residents of Die Bos (an informal peri-urban squatter settlement near Stellenbosch) discovered that the housing subsidy was about to become available in their area they started to rigidify their fluid living arrangements immediately. Many got married, assuming (correctly) that the subsidy would not recognise common law arrangements and wishing to be in a position to qualify for the grant. That this response was so rapid demonstrates the fluidity of the situation and the immediate and dramatic effect of the policy (Ross 1997).

Another example: in Algeria, a rural area in the Northern Cape, a fieldworker employed by the Surplus People's Project found rural people living in relatively stable households which had existed under one roof for a long time; she surmised that this was a response to a forest and conservation worker housing policy of 30 years ago (Household Research Steering Committee meeting, CRLS, Stellenbosch 1997).

These examples show that what was unthinkable can easily become a practical proposition.The time `before' the change, whatever that change is, assumes a new meaning in the narrativised life story as the only possible precursor to the present. In that sense, it is extremely difficult to capture the `structure of feeling' – to borrow Raymond Williams' pregnant phrase – of any `before'. (Try to accurately remember the `structure of feeling' in 1989 in South Africa, for example, before the release of Mandela, the negotiations towards a new constitution and the election of a Government of National Unity, which does not include the 20/20 hindsight of what came to pass).

The in-built biases of `policy work'

Rural electrification is occurring within a rapidly changing policy environment, which includes the land reform, housing, and water and sanitation programmes. All of these new opportunities or constraints exert influences which interact in a complex way. Policy work has two in-built biases: towards notions of stability (because of the time it takes to devise, promulgate, fund and implement new social policy), and towards single-cause explanations of social phenomena (because policy currently tends to be made sectorally). From the point of

[7] For example: the absence of a policy to allow pregnant women and children under six years old access to free public health care has the same effect as a policy which states – pregnant women and children under six years old will be charged the same as everyone else. The far greater use of clinics and hospitals since this policy has come into effect demonstrates the ways in which women and children were prevented from using health facilities by the `negative policy'. Similarly, the new policy which grants poor women three free PAP smears each during their lifetime is a strategic response to a previous `negative policy' which allowed the asymptomatic and lethal cervical cancer to become a leading cause of female mortality.

view of rural people, the policy environment in which they live is complex, inconsistent, and uncoordinated.

Policy making `on the ground'

There is another limitation which anyone engaged in policy making will readily admit: the gap between policy-making at national level, and policy making `on the ground'. Normative statements of intent – `jobs for all', `electricity for all' – are necessary at the begininng of a new national dispensation. An effective policy understands what is preventing a desired state of affairs, and suggests a realistic strategy to address the current, undesirable situation. Such a policy should be possible to implement without requiring the implementors (contracting engineers, civil servants, fieldworkers) to make up a further set of ad hoc sub-policies `on the ground' which may nullify or alter the intended effects of the official policy makers. In the absence of an informed and mobilised civil society, implementors can and do make `policy on the ground'. An example: Jan X is an employee of an NGO which works with farmworkers and their white farmer employers in the Western Cape, negotiating conditions for the granting of the land\housing subsidy as a form of `joint venture'. He manipulates policy in the interests of women, by telling the farmworkers that the law requires that each adult member of the household be written down on the form as a co-owner. This is not true: the form requires only that the name of the 'household head' be written down – in reality a net transfer of value to men. This practice only serves to illustrate the weakness of the policy. If a fieldworker can change the policy `on the ground', in the `progressive' interests of women, it is just as easy for another implementor to make certain that the reverse happens. The `beneficiaries' seem to understand the implications; the marriage response in Die Bos indicate that there is a shared notion of what officials will require.

What happens in practice? Do national policy-makers delegate the actual implementation of the rural land acquisition subsidy form so thoroughly to juniors that they lose control of major decisions, or are they so oblivious to the gender rights enshrined in the Constitution that they design a form which undermines their own policy of gender equity ? Where does power lie in practice? With policy-makers? Middle-management civil servants? With implementors? It is clear that a feedback loop – whether action research, participatory research, or ongoing popular consultation processes – is absolutely essential if the unanticipated outcomes of policy interventions are to be recognised.

Policy making in a gendered world

> The nature of gender relations – relations of power between women and men – is not easy to grasp in its full complexity. But these relations impinge on economic outcomes in multiple ways. The complexity arises not least from the fact that gender relations (like all social relations) embody both the material and the ideological. They are revealed not only in the division of labour and resources between women and men, but also in ideas and representations – the ascribing to women and men of different abilities, attitudes, desires personality traits, behaviour patterns and so on. (Agarwal 1997)

While devising and implementing policies which do not inadvertently discriminate against vulnerable and marginalised women requires a new consciousness of the way gender relations shape and are shaped by social relations, it is, in terms of the Constitution the `primary positive duty of the state ... to create accessible institutions and fair processes which facilitate access to [socio–economic] rights. A fair distribution of opportunities and resources must be promoted through legislative and other measures' (Liebenberg 1997).

'MARKET SOLUTIONS' TO RURAL POVERTY

The development of healthy and sustainable rural lives and livelihoods has not been primarily used to decide inclusion and exclusion criteria for rural household electrification, levels and types of service, or the impact of electrification over the short, middle or long terms. Instead, the cost per connection ceiling (in a design focused on distance from the grid network) has

been used as the inclusion\exclusion mechanism. But applying development criteria is not simple. Electrification alone may not be able to transform or even ameliorate the horrific poverty experienced by poor people in the rural areas. Since, however, it is unlikely that the current budget would be made available to fund activities or investments which might be seen as more important than electrification as a resource for rural development, a national decision to withdraw or limit this significant investment might in practice be a sort of negative rural subsidy: a pure loss of infrastructure which may or may not have been of value to many rural people. So it is important to be realistic about the benefits and costs of electrification to the rural poor; and to begin to define what else would need to be added to the moment of electrification in order to realise more fully its potential for improving the quality of Mrs Mohlamanyane's life.

What is a rural area in South Africa?

Mrs Mohlamonyane lives in a `rural area', Moutse, an ex-homeland area now in the Northern Province. To what extent is her life and its challenges `typical' of the difficulties faced by rural people in South Africa? What do we mean by rural, anyway? Is there is enough uniformity of conditions across `rural areas' and of the experience of `rural people' to be able to generalise usefully about the effects of rural household electrification? This study argues that in South Africa, `rurality' is a process whose definition and relationships to the `urban' change continuously over time.[8]

There is debate both nationally and internationally about the definition of `rural'. The consequences are important not only for the collection and disaggregation of quantitative and qualitative data, but for the way in which `rural development' is conceived of, strategised for and practised. Should `rural' be characterised spatially, geographically, in terms of livelihood practices (relative to land and other natural resources) or in terms of population density? At present in South Africa the definition is political: settlements in rural areas and those in urban areas.

> The NER database ... defines urban areas as falling within a formally proclaimed local authority area before the 1995\6 local government elections. Many `rural' areas fall in densely populated functionally-urban areas, adjacent to formally proclaimed local authority land. (Steyn 1996)

In many countries `the urban' is defined by a threshold population size. In Nigeria, settlements of more than 20 000 people are defined as `urban'; in Ghana and the UK the number is 5 000, and in the USA 2 000 (Udjo 1997). Botswana, according to Udjo, introduces another variable – that 75% of the labour force of a settlement should be involved with non-agricultural work.

In South Africa, the Central Statistical Service has initiated an expert consultation process towards changing our own inadequate definition, and currently prefers to use the term `non-urban' (Udjo 1997). For the purposes of this paper, I have in mind `rural' as defined by location and relation to the urban resource flow. In terms of the distance from the urban resource flow, then, rural would mean mainly African people living in Northern Province, North West, Eastern Cape, Mpumalanga and KwaZulu/Natal. This is the order in which Udjo places these provinces in terms of their percentage of non-urban dwellers, and their relative poverty.

Why define rural areas at all? In South Africa, `rural' carries the additional experience and memory of the misery of forced land removal and the systematic destruction over time of considerable agricultural investment, bodies of knowledge, and social networks. Broad land dispossession was an essential part of the solution of the agrarian question in favour of white

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[8] The sheer weight of the national oppression of Africans under apartheid may obscure the ills that the regime visited also on Coloureds and Indians, and the variation of the historical experience of the `underclass', both urban and rural, should not be forgotten. Singh's (1996) work in Phoenix, on the undermining of the Hindu joint family form by segregationist and then apartheid land and housing policies and the paradoxical necessity for the creation of joint living arrangements for the survival of the poor challenges stereotypes of the poor in South Africa as African and rural.

large scale commercial farmers. The apartheid government's influx control policies, designed to enforce rurality as a means of social control, as a solution to both the `native question' and the `labour question' (Bernstein 1997) have left millions of people with complex, unstable and miserably inadequate livelihoods, in a host of different relationships to land and waged labour, in areas which are remote in terms of access and the transport infrastructure from large urban centres, and with little practical prospect of utilising land for commodity production.

Alhough those farmworkers who live on commercial farms are included within the ranks of the poorest of the rural poor (Rural Development Framework 1997), their security of tenure on privately owned land presents political, legal and livelihood challenges to electrification which are substantially different from the challenges faced by people living in the ex-homeland areas. Farm dwellers will need a separate research focus and a different electrification strategy.

Within the need to define 'the rural' is a reparative urge – the urgent need to target these `most deprived' populations for service delivery, as a matter of justice[9] as well as for longer-term national economic stability and political security. By this definition, South African rural areas are those fragile, unstably populated areas defined by their relative lack of resources, and characterised by a continuing flow of human resources and products towards the urban centres. The great majority of people who live in rural areas are critically distanced from primary resource flows and political, social and economic opportunities. They have the highest concentration of below-the-bread-line poverty in South Africa, with no or little access to land ownership or secure tenure, capital accumulation, or access to bodies of modern knowledge and technology (Udjo 1997). If we use children's nutritional status as an important indicator of community and household well-being, the persistence and ubiquity of malnutrition defines rural areas as terrains of desperate poverty (Operation Hunger 1997).

'Rural', then, is defined in terms of the *differences in access to resources* between the tiny group of rich at the commanding heights of the economy and the large group of people at the very bottom. People who use the terms `remote rural areas' or `deep rural areas' – terms which have entered the energy policy language – are frequently referring to the political and economic, rather than geographical distance of the rural areas from the urban centres of power and wealth. Consequently, although these areas have powerful linkages with the urban economy and need to be understood in terms of the South African economy as a whole, `rural' implies distance from the possibility of jobs and cash and thus services and amenities that can be paid for.

The changing composition of the urban labour force has resulted in terrifyingly high youth unemployment rates. This intensifies rural poverty at a time when state budgets (investment in service provision and job creation) are being cut. Though rural areas give off an air of ghastly stagnation, they are postmodern, not `traditional' human settlements. Many rural people are in constant movement[10] – looking for more land, or better opportunities; going to town to work if they can, losing jobs or health and returning; sending children `home' to share in the desperate poverty of the elderly women forced to look after them in the absence of opportunity for them in town. *While conditions in rural and urban areas are distinct, they co-create each other, and cannot be conceived of as separate worlds for the purposes of policy development.*[11] Nor are the processes and trends of `circular migration' well understood, although we know that many women are left in these areas `holding the knife on the sharp edge' (Rural Women's Movement slogan).

Within rural areas the social and economic terrain is very uneven, whether measured in terms of cash income, or cattle ownership (two important indicators of relative wealth and well-being). The economic and political history of different areas has resulted in a great regional diversity of rural poverty, as studies like Bozzoli's *Women of Phokeng* (1994) and Van

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9 See Thom's explication of what is involved in `equity' in Thom 1997.

10 The micro-ethnographies which have traced the life histories of people living in squatter settlements in urban areas report extraordinary child and adult geographic mobility between urban and rural areas (Spiegal 1996).

11 The notion of the `dual economy' is refuted by the parity in the subsidies offered by the DLA for rural land aquisition and development and the Department of Housing subsidy.

Onselen's *The seed is mine* (1996) show. Thus while unwarranted generalisation is both necessary and inevitable in national policy formulation, at the microlevel every difference makes a difference – and studies rich in thick description are still thin on the ground.

Energy poverty cannot be solved in the energy sector alone

There is a temptation is to ascribe more to a single factor – electricity – than it can possibly bear. An international literature of reflection on the experience of two decades of rural electrification establishes that the problem of energy poverty cannot be solved within the energy sector alone (James 1995; Kabeer 1994; Schramm 1993; Ramani 1992). The complexity of attempts to reverse impoverishing rural resource flows are acknowledged in Cecelski's (1996) sober contemporary assessment:

> Energy, environment and development are intimately mixed. While development depends upon energy, the availability of energy does not guarantee development (no income\capita straight line relationship).

Market solutions to poverty – a critique

Affordable energy services are without doubt an important element in the halting or reversal of the malign processes of rural immiseration. But who is going to pay? The electricity service itself and related costs such as wiring and investment in appliances require regular payment. How much payment will come from these pockets of deep poverty while the processes which support these negative flows of energy are still in place? There are many constraints to `rural development' (Low 1986; Bernstein 1997).

In contemporary South Africa market solutions to the problem of poverty are newly respectable. The privileging of economic growth and development as the solution to the problem of rural poverty, rather than as an important means of human and community development is promulgated within policy frameworks (Draft Rural Development Framework, April 1997) and even feminist debate (*Agenda* 1997). At the level of state economic policy, the old efficiency arguments, initiated under the Nationalist government in the 1980s, have been retained and developed since the elections by the new policy-makers: greater reliance on `free market forces' to allocate resources, the inefficacy of subsidies, and the notion that, in order for services to be maintained over time, they should be paid for by `the consumer' (Clacherty et al 1997).

In South Africa, as we have seen, wealth in the form of resources and the labour power of rural people, extracted over time from the rural areas, has flowed to urban areas, just as wealth has flowed and continues to flow from the poorer countries to the richer ones. The market, then, has traditionally acted in South Africa as an important mechanism for the *generation of poverty* – through the loss of livelihood sources – as well as for the generation of wealth.

If poverty and wealth generation are dynamic and interrelated processes, the generation of wealth is not in itself the answer to the problem of poverty. Economic growth requires that natural resources and labour be obtained as cheaply as possible. If South Africa needs to `develop', from whence must the cheapest resources be extracted? Traditionally, from the rural areas, in the form of human labour power. This means that while economic growth may take place – in pockets – it may be at the continued or increased expense of the already economically marginalised. The loss of jobs on farms, for example, is a response to the `rationalisation' which competition on world markets is seen to demand. It may also be a backlash against new legislation protective of farmworkers' security of tenure.

How can reconstruction and development of these deep pockets of poverty take place without putting the fragile livelihoods of the very poor at even greater risk? How are the interventions at national, regional and local level to reverse this impoverishing resource flow conceived of? It is within these notions and practices that the rationale for rural electrification is currently couched. Discourses of `poverty alleviation' and `sustainable rural development' currently co-

exist with notions of `economic efficiency'.[12] At the same time, South Africa is apparently GEARing up to insert itself successfully into the world economy, where urban (and rural) wages must be kept low enough to attract international capital and entrepreneurs.[13] In short, South Africa is hoping to compete as a relatively sophisticated cheap-labour economy in the world market. The prospects for poverty alleviation, let alone rural development in the rural areas through `the market' are not good.

POLITICS: NATIONAL, LOCAL, AND HOUSEHOLD

The politics of rural electrification

Politics is about power. Rural development, minimally, is about the delivery of infrastructure and services to the poor. Does `politics' get in the way of `development'?

'Politics' is the way in which multi-layered struggle over the allocation of scarce resources between those who do not face each other as equals in society is conducted. In South Africa, electricity is a powerful symbol of access and privilege. While household electricity in white residential areas has been ubiquitous and cheap for many years, even the old and well established black urban dormitory townships such as Soweto have only been electrified in the last 15 to 20 years. Most South Africans have grown up in non-electrified households. Thus the decision to electrify rural areas is politically highly significant, promising to deliver not only a service but also the perception of development and progress, an election promise made good. Electrical power may be read as the literal alteration of power relations – a reversed resource flow, from richer to poorer South Africans.

National politics

At the level of national politics, the relative strength of the electrification lobby (as represented by the financial muscle and national capacity of Eskom, and the prompt and powerful insertion into the national policymaking process of EDRC) may be one of the reasons that rural electrification was mooted well before the elections and has been rapidly implemented in advance of any plan for integrated rural development or the capacity to adequately deliver land, housing and jobs. It does not represent the national prioritisation of energy services over, for example, clean accessible water [14]as an intervention to improve the lives of the rural poor. Indeed, any rational choice would have favoured rural domestic water supplies, but the Water for Development lobby was scarcely represented within the pre-election NGO sector (Mvula Trust was initiated only in 1993) and a relative latecomer to the policy processes of the 1990s.[15] Electrification is also one of the few measurable acts of state `delivery' on election promises. Housing and job creation – the most important popular demands on the post-election government – have proved extremely difficult to deliver. Electrification too is deeply embedded in an intractable net of macro-economic, socio-legal and financial arrangements.

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12 While it has been accepted that rural electrification in South Africa must and will be highly subsidised (as it was and is even in rural North America), these notions make uneasy bedfellows; hence the stress in some South African energy studies (Thom 1997; James 1997) on notions of equity rather than economic growth.

13 Our new constitution, though, represents an important countervailing tendency to GEAR-think by radically challenging the explicit legal framework of apartheid, as well as the inexplicit structure of growth-oriented, extractive societies – that is, that some people are more valuable than others. This dynamic hierarchy of the value of persons is based on and partially maintained by the division of the population into gendered beings of differential value. In market terms, the value of men is greater than the value of women (race and class differentials being equal). These processes of the net transfer of value would seem to exist from intra household to international level.

14 Thom et al (1995: 47) make a similar point in their study.

15 Thus the irony that rural clinics are electrified so that they may better treat people suffering from waterborne or water-washed diseases such as diarrhoea, or eye and chest infections caused or exacerbated by cooking fires (Ross 1997).

We should not underestimate Eskom's significant achievement of delivery, even if electrification has occurred mainly in isolation from other development interventions.

Local politics

In rural areas electrification is a significant potential resource with unknown (but imagined) advantages and unanticipated outcomes which only the experience of electrification and its effects can provide. As the insertion of a valued and highly symbolic service – power – *electrification is an intervention into local political processes* contained within a complex history of land use and dispossession, of complicity with and resistance to authority at community, regional or national level.[16] Because of its symbolic significance of power and modernisation, electrification is seen in rural areas as a highly significant event with a political charge over and above its use as a service. It is political insofar as it is selectively awarded, since not everyone everywhere can have electricity at once, or even at all. Thus allocation meetings between Eskom and provincial electrification forums at district level are potentially highly conflictful. The notion that electricity provision is not political, or should not be politicised, is in itself a political position. Indeed, while both energy researchers and Eskom contractors deplore the high level of intra-community factional violence in KwaZulu/Natal which has impeded the delivery of rural electrification, they simultaneously claim that electrification may serve as a possible community unification mechanism or `binding force' (van Gass et al 1997). Thus the political discourse of `community' current in energy studies masks local power struggles.[17] Nor can we ignore the possibility that `often the intended objective of rural electrification programmes for governments, is to ensure political stability and/or guarantee re-election by providing services, such as electricity, to rural constituencies' (James 1995).

The politics of the household

'The household' is the link between macro and meso-economic changes and changes in personal welfare, and between price or incentive policy reforms and individuals' resource allocative behaviour (Kabeer & Joekes 1991: 1). In most gender analysis frameworks the domestic unit is seen as a primary site of women's oppression, privileged above the social relations which surround and enfold it. Social relations of gender oppresssion are assumed to be particularly intense when people spend their daily lives in close contact with each other, particularly if `the household' is the social mechanism through which individuals' welfare and labour allocations are determined.

With whom does Mrs Mohlamonyane live, apart from her children? Who are her significant others? Are they currently under her roof? What are her relationships like with her neighbours (or her tenants, or her landlord)? Whom does she count as kith and kin?

Because electrification is an intervention into social networks and social meanings – who will use it, for what, with what effects; who will pay for it, and how, at what cost – some of the assumptions about the household which seem to underlie policy-making need to be interrogated.

The history of migrancy and the phenomenon of `circular migration' has led to the acceptance of the notion of the African rurally based `stretched household' (Spiegal 1996) – stretched across space, always in a state of flux, with one or more `members' missing at any one time –

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16 Chiefs, for example, could see themselves before 1994 as resistant to apartheid while simultaneously exploiting the authority delegated to them by the state and drawing a salary from the fiscus.

17 It is difficult to integrate notions of chiefly power in KwaZulu/Natal battling for hegemonic control of its political base with notions of `individual customers (who) apply for household connections over the counter at the Shelley Beach offices' (Van Gass et al 1997) in the market-driven world of electricity supply. The `traditional world' as imagined community, facing a `modernising' impulse or challenge? Rural dwellers have multiple identities too (see AFRA Rural Women's Workshop Report, December 1995, where chiefly `community' power was seen to be opposed to a new subject position: `individuals with human rights under the new Constitution').

> an aggregation of economically marginalised individuals, both kin and non-kin, who pool their resources for their mutual benefit. The meagreness of their material conditions results in frequent turnover of a household's residents and often its complete dissolution as a social unit. Such households are characterised by male absenteeism, brought about by the export of labour to South Africa's core industrial areas. (Singh 1996).

The household, then, stretches over space and time, continually reconstructed in memory and narrative as a shared history of emotional and practical intradependence. Within the `aggregation ` is subsumed the different roles, strategies and benefits of men and women and children, of different ages. Conflict must be assumed as well as co-operation (Sen 1991; Agarwal 1997; Wilson 1991). It is this aggregation and the fluidity of domestic units that needs to be explored in order to understand the role and potential benefits of rural electrification.

While the urban micro-studies do not indicate a definite trend, some case study material indicates that Africans living in squatter areas in Cape Town retain strong loyalties and projections of rights and duties to rural locality and kin identities in the Transkei and Ciskei.. Individuals' projection of future rural securities and benefits will thus impact on current investment in rural electrification. At the same time, rural electrification may be one factor (amongst many others) in the decision to maintain or increase rural remittance (see Electrification and rural migration, below).

Domestic struggle

How are decisions to allocate resources made? How will electrification affect the status quo, if at all? What will the effects of household electrification be on gender relations and on relations between the generations?

Gender is not the only divide along which intra household conflict manifests. In a world of finite resources, the allocation of resources is always fraught with tension, ambiguity and conflict. Leach (1991) reminds us, commenting on decision-making amongst the Mende of Sierra Leone: `Ambiguities and tensions over resource allocation were often dilemmas for all, not a pitting of conflicting male and female interest'.

Who controls which resource flows within Mrs Mohlamonyane's household?

Does the household head makes rational decisions which are in the ultimate interest of the household as a whole? Is the `household head' in fact `the customer' for electricity? Is `he'more likely to be a male? What will be the effects of household electrification on the energy poverty of men, women, children, the elderly, richer and poorer? How are decisions to allocate resources made? How will electrification affect the status quo? What will the effects of household electrification be on gender relations and on relations between the generations?

The household as a primary site of women's oppression

There are different conceptions of the origin and function of the gender division of labour. Economists have tended towards `rational', functional, explanations; feminist anthropologists insist that this misses the point – that it is the ideological and material subordination of women which is at the heart of and shapes the asymmetrical gender division of labour, gender roles and gender role learning.

At a community level women's control over the allocation of resources such as land is still highly constrained. Within households the social relations of gender determine differential rights and access to and control over decision making processes and resources.

The assumption behind the highly influential `neoclassical' view is that each household has or should have a benevolent dictator, a household head, whose role and capacity it is to make rational economic decisions which are in the interests of the household as a whole. `The customer' is used interchangeably with `the household' (Wilson 1991).

Recently feminist economists have attempted to model the contestation of power within households. In Sen's (1991) model, the household decision-making process is seen as a bargaining process between parties whose bargaining power depends on their position as individuals within the larger economy. Co-operation will take place as long as, on balance, it is

in the interests of all its members. Where there is a conflict of interests, decision-making outcomes will reflect the differential bargaining power of household members.

In this model, wage earners presumably take precedence over non-wage earners, men over women, adults over children, the younger over the older – or the older over the younger, depending on what constitutes social rank in any particular context. While the advantage of this approach is that notions of differential power are brought into the domestic unit, which can then be seen as a site of both conflict and cooperation, the politics of the quotidian are subtly removed by suggesting that outcomes are generalisable in terms of social rank. One might as well maintain that all quarrels will be won, in the end, by the person of superior height and weight. This view leaves out the essentially unknown and unknowable outcomes of domestic struggle. Where there is power, there is resistance to power, whether such resistance takes the form of the `weapons of the weak' (after James Scott) – manipulation, withdrawal, various types of covert actions; or open conflict and even outright rebellion. Agarwal (1997) states categorically:

> Norms set the limits to bargaining. They can define which issues can legitimately be bargained over, and which fall into the arena of the incontestable ... `the undiscussed, unnamed, admitted without argument or scrutiny'. A good deal of what is justified in the name of `tradition' falls into this category.

This view seems slightly reductionist. While powerful ideas (norms, values, `ideologies', beliefs of various kinds) will powerfully pattern outcomes, they cannot predict them.[18] Culture is always a work in progress. Indeed, conflict may be seen in process terms as an essential element of co-operation, as one point on the continuum of `bargaining'. Conflict is not diametrically opposed to co-operation, nor is it synomous with `irretrievable breakdown' of co-operation.

In her study of who is chosen or chooses herself to become a traditional healer in rural Zimbabwe, Reynolds (1996) has shown that relatively young children are capable (in chess terms) of being `king, queen and pawn' in the complex power plays of daily life (by, for example, the reporting or withholding of significant dreams) though they may overtly be accorded little or no power in decision-making at any level. In other words, the decision-making process around resource allocation is predictable only within limits. Further participatory research is needed.

Politics of the household – consequences for electrification

Moser (1996) notes a pattern in three of her research `developing country communities' that, while women tended to have equal or primary decision making power over the buying of food and clothing, men made the decisions on purchases of alcohol, cigarettes and other items of luxury consumption: `Since male alcohol consumption is frequently the biggest drain on household resources, this division of decision making power has important implications for women's ability to budget.' Can we expect to see a pattern of male decision-making in so far as choice of appliances goes, since men may have greater control over cash resources? In terms of acquisition priority, will television sets be privileged over domestic labour saving appliances such as electric kettles, hot plates or stoves – and would this necessarily indicate male choice?

Will rural electrification affect the use of Mrs Mohlamonyane's domestic space?

Electrification may affect the construction of gendered spaces within the domestic unit. `Traditional culture' does not consider it appropriate to cook and entertain in the same space – thus where one room has been electrified, women have been reported to retire to cook over smoky fires outdoors. But material culture is reflexive and may have its own effect upon social

[18] Behaviour is predictable: change is possible; `Only change is certain' (Brecht).

relations; what will be the effect on `tradition' of the household encirclement of a television set, rather than a fire, in the evenings?[19]

The extraction of value within the household

Current gender relations in South African rural areas may in fact represent a solution to a deeper problem. The feminisation of poverty is both a logical consequence of extra-rural resource flows and a partial, brutal solution to rural poverty. Most rural men in South Africa have very restricted access to land or to capital. In this context, the control of women's labour is men's single greatest asset. The multiple roles that many women are forced to perform in terms of asymmetrical gender roles thus represent a solution to a severe problem of scarcity for men.

There is a history of contestation to the social and economic power of older men over younger men, and of men over women. In South African precolonial economies, the discovery of gold and minerals offered young men an alternative route for the accumulation of the capital necessary to participate in the bridewealth system, that is, to aquire the social and economic status of men within a hierarchy that extracted surplus in the form of labour power from women (as a group) and young men (Guy 1990). This new opportunity to aquire guns and then money gradually undermined the powers of the chiefs. For rural women in some areas, such as Phokeng, the growth of a colonial economy offered the relative freedom to escape the direct exploitation and control of patriarchs by the possibility of waged labour in the new towns and cities – a contradictory and circumscribed `freedom', but one which allowed some possibility of cash accumulation in her own right for a woman, who might then invest it in building and furnishing a brick house in her rural `home' (Bozzoli 1994).

The politics of domestic violence

Many men within rural households may perceive the maintenance of tried and trusted solutions to the problem of scarcity to be in their best interests, if only because a new proposed solution (based on some variant of `gender equity') is at least – in terms of resistance to change – open to legitimate doubt and question. Secondly, men and women are both vividly aware that we live in a world of scarcity: land and resources are finite.

> In the Border region, the frustration of young men unable to attain older-style adult standing with land and a homestead is reported to have contributed to abuse of women as early as the 1940's. Given the artificial land shortages produced by apartheid legislation, it seems that women may be seen as escaping from male control at the same time men are blocked in their routes to social goals. Since women are often unable to to obtain land of their own, demands on men may remain high. Women may then become scapegoats, drawing male hostility, as easy targets, when older male power figures and representatives of the regime are inaccessible. (Cross & Friedman 1997)

The participants at a rural workshop on women's rights in rural KwaZulu/Natal in 1994 identified physical and emotional abuse, and the fear of them, as a major barrier to the claiming of political rights at the level of the household, and thus at the level of community structures and local government. Urged by a visiting activist to express their opinions and vote women into power at the forthcoming local elections, one woman remarked `I am a dog at home – I do not have an opinion in my own house' (AFRA Women's Workshop, December 1994).

White (1994) has pointed out that violence is a sign of weakness at the level of the state as well as between men and women at the level of the household: `Where power is successfully expressed, it is so all-encompassing that conflicts are completely submerged.' It is interesting to reflect on this statement in the light of the high current incidence of domestic violence in South

[19] In response to a cluster of social and economic changes, the gendered use of domestic space has changed in the last generation in middleclass urban houses; its indicator is the unification of cooking and entertainment spaces in kitchen\lounges, as the gender division of labour around the preparation of food (and responsibility for `breadwinning') has blurred.

African rural areas (Association for Rural Advancement 1995). It seems the patriarchal social relations of ex-homeland areas are under severe strain, and that they are having to be enforced in a way that indicates a growing resistance to and rebellion against them – by women who are aware (if only through their participation in the general election of 1994) that they are now, at least theoretically, entitled to rights as `equal citizens' with men.

Diversity within the household: age

Are Mrs Mohlamonyane's parents living with her?

While older people are a minority group in South Africa, they play an important role in poverty stricken households in a number of ways; yet they are often overlooked by policy makers and planners (Ross 1994). They provide childcare for absent parents; and their tiny pensions are an important stable source of income, to be stretched among many people (Ross cautions against regarding pensions as an indicator of wealth, though she points out that a regular source of income, however tiny, enables people to establish and maintain certain social relationships and mutual assistance activities).

While the elderly may be considered as dependants rather than household heads, their role as every day decision-makers with regard to the choice and use of fuels is particularly important. Ross (1993) studied the effects of electrification on the elderly in Elim, a coloured rural community with a very different history to the mainly African areas under discussion. The study is of great interest as an illustration of differences which may make a difference within households. Ross's study shows that the concerns of the elderly about the use, meaning, and cost of electricity is a powerful factor in limiting demand for the further electrification of houses at Elim. Ross suggests that the elderly are an essential target group for education about the uses and abuses of electricity; as well as an important indicator group for assessing the appropriateness and affordability of levels of service currently being offered.

Perceptions are important social facts. The study group at Elim inaccurately perceived electricity to be wildly expensive – more expensive than paraffin, wood fuel and candles – because they were thinking about the cost of internal wiring, new appliances and the monthly flat fee charged to consumers by the church to pay back the connection loan taken out by the landowner, the Moravian Church, to connect Elim to the grid. Monthly fixed expenses which rapidly consume a fixed pension are regarded as an `entrapment into the cycle of household poverty' – the elderly have no prospect of improving their financial prospects – and importantly, do not directly share in the extra household benefits of electrification. Their ambivalence and even hostility towards electricity as a domestic energy source may also indicate their distance from what `development ` is perceived to bring – teenage pregnancies, the indiscipline of the youth, the breakdown of social mores. It may be construed as a critique of the changes development and modernity are perceived to bring about as well as the expression of their own distance, as elderly individuals, from any benefit.

This case study is important, even though it is not a study of the African ex-homeland areas, because it cautions us against the belief that we can separate the rational benefits of a powerful new energy source from the cluster of social meanings in which it is embedded. Because electrification comes with a complex mix of possible benefits and perceived disadvantages – including unwanted and non negotiated change, the sense of the denigration of the past, of older values – elderly people's (partial) rejection of this energy source cannot be seen as simply psychological, or typical of resistance to change and `modernity', but as expressive of aspects of altered power relationships at every level.

WHAT IS RURAL DEVELOPMENT FOR MRS MOHLAMONYANE?

How do we conceive of the electrification of her dwelling contributing to the improvement of Mrs Mohlamonyane's livelihood in an `equitable, sustainable and environmentally healthy way' (Cecelski; 1996)? Forty per cent of the population of South Africa lives in `rural' areas.

Yet only 14% of the population is employed in agricultural production – a percentage which is steadily dropping. Since circular migration is overwhelmingly male in character (Meer 1997), the sex ratio of the rural areas is extremely skewed. The overwhelming weight of rural poverty is carried by women. Thus any development policies and programmes which aim to improve the livelihoods of the poorest rural people must be acutely aware of the current livelihood strategies of poor women, the gender division of labour, and the current gender inequities within and between households – in short, the social relations of gender in specific local contexts must be explored and understood.

Mrs Mohlamonyane's insertion into the rural economy

In order to explore the social relations of gender, we need to take account of and cost the non-monetised, difficult to measure but essential economic contributions to health and welfare contributed mainly by women (and children) within domestic units. Any policy framework which includes a reductionism such as the notion of women's `insertion into the economy', therefore, continues to reflect false notions of women as economically inactive.

This is a partial list of what a supposedly economically inactive woman such as Mrs Mohlamanyane may routinely manage: reproduction and child care; the provision of household water and energy services; survival enterprises such as sewing, beadwork and gathering medicine plants for sale; marginal agricultural production (vegetable gardening, where there is water; the keeping of small stock such as chickens and goats); domestic labour; emotional housekeeping for kin and community; the production and reproduction of household and community rituals which provide and maintain identity and hope. These activities, `women's contribution to family and community development', are the invisible but absolutely essential collateral without which the `bread winning' activities of men or `economically active women' would be impossible.

Increasing Mrs Mohlamonyane's access to cash income

If the economic value of these unpaid jobs is factored out of policy frameworks, the dangerous assumption may be made that these overburdened women can be enabled unproblematically through `development interventions' to earn enough money to financially sustain such services as domestic electrification, water provision and waste disposal, education and health services. Is this a practical proposition? The alternatives are few. They are to:

- Train Mrs Mohlamonyane in a marketable skill, financially support her through loans, and provide markets for her products or services so that she can develop into a small scale business woman or service provider with a regular cash income.
- Reskill Mrs Mohlamonyane so that she can compete with other women and men for a formal job.
- Provide opportunities for Mrs Mohlamonyane to increase her agricultural production and to market her surplus for cash, or to assist her to move into commercial agricultural production.
- Increase Mrs Mohlamonyane's access to and control over important resources such as welfare subsidies and state pensions.
- Increase Mrs Mohlamanyane's access to and control over the cash and spending decisions of the wage earners attached to her household, that is, effect a radical change in social power relations both within `the household' and in society in general.

These alternatives are considered in this section of the study.

Development of `economic enterprises'

Will electrification, by making possible the use of appliances and machinery such as refrigerators and deep freezes, sewing machines and welders, enhance Mrs Mohlamonyane's rural income?

While electricity is an efficient form of power for machines, the question of moving into entrepreneurial enterprise is a complex one. Appliances and machinery need to be appropriately financed as well as appropriately designed to be accessible and useful. Major challenges for a would-be entrepreneur are not so much appropriate energy supplies but skills training, financing and, above all, marketing opportunities for her production or her services.

> Rural electrification is a marginal issue in the overall picture of the myriad constraints that confront rural SMME [small medium and micro-enterprises] development in South Africa. Local evidence would appear to confirm the international pattern of an initial post-electrification boost to survivalist retail with only a limited long term impact on the micro-enterprise economy. The core issues for rural SMME development surround the apartheid legacy of disadvantaged communities being situated in remote areas with limited access to to markets, finance or information. (Rogerson 1997)

If we accept that (unless she is able to access national or international markets for her products, as a few well trained and financed rural handicraft producers have done) it is unlikely that she will be able to develop a full time business with a stable workforce in the forseeable future, `survivalist' enterprises – the kind Mrs Mohlamonyone is likely to undertake – might be seen as one essential strand of a multiple livelihood strategy, rather than as a dead-end economic trap. The important work of the Self Employed Women's Union (SEWU) needs more attention in this regard. In the Union, women involved in `survivalist' enterprises have been organised to take on their customers and state officials collectively, in a number of cases managing to raise the price of their wares (medicine sellers), lower the price of transport, or gain access to state woodlots and marine resources unattainable to them as individuals (SEWU 1997). These are cases where collective enterprise and ingenuity from the bottom up has increased the grip on cash of women `survivalists'. SEWU continues to grow rapidly, and currently receives many requests from rural groups to assist in their organisation (Horn 1997).

Electrification and increased agricultural prodution

International evidence associating rural electrification with increased agricultural production is interesting because it shows how specific and unusually deprived is the South African rural context. Internationally there is consensus that electrification is associated with higher agricultural productivity, but as an element of an integrated package which includes irrigation, multiple cropping and the use of fertilisers, pesticides and hybrid seed, access to credit, and agricultural markets (Barnes, in James 1995). How would this experience be applicable to the ex-homeland areas of South Africa? Which farmers, based on what land, under what tenure, with what level of support (such as agricultural credit and extension) could possibly be engaging in this level of (irrigated) production in the conceivable future in South Africa?

The Smith government's attempt to create a Master Farmer class in Rhodesia comes to mind here – the support of a small `rich peasant' stratum, on the edge of commercial farming, forced to exploit the unwaged labour of women, children and poorer kin for marginal profits. The show-piece sharecropping irrigation schemes for (male) `emergent' farmers initiated by the Development Bank of South Africa in the homelands in the 1980s were a similar attempt to create a `black commercial farmer' class in sharp distinction to the 'traditional' pattern of a rural African multiple livelihood strategy; small-scale agricultural production and extensive grazing of cattle and small stock on common property resources. Poor rural people cannot afford the risk of specialisation. This strategy might benefit the thin layer of rural people who are already large cattleowners, have connections with chiefly power, or have previously invested in businesses such as rural bottle stores,taxis, supermarkets or garages. These people are an obvious and immediate market for 20A rural electrification as well as the new services and approach to rural financing for increased agricultural production currently being adopted by the Land Bank (*Business Day* 1998)

This cannot, in the current circumstances, be a rural development strategy for Mrs Mohlamonyane.

Land reform

An effective land reform programme is central to increasing rural production and livelihoods. Even in the current extremely limited circumstances of African land holding, land is of great importance to the livelihood of rural people. Rural people use what arable land there is, and, most importantly, the entitlements which accompany membership in a landholding `community' in a variety of ways (Cross & Friedman 1997). These include the rights to the use of a common grazing resource (though cattle ownership is also very skewed, and women tend to own only small stock such as goats), the right to gather a variety of food and medicinal plants, building materials, and the right to collect fuel.

Implementation of the Department of Land Affairs' modest, demand-driven programmes has been halting and beset by problems. These initiatives have been criticised for their timidity and inconsistency (Levin & Weiner 1996) and for their innocence of the effects of current gender relations on well-intentioned efforts to redistribute land (Meer 1997) and the housing\land subsidy (Sunde 1997) despite the fact that justice rather than agrarian reform has been central to this policy framework.

The complexities of agrarian reform in South Africa have only recently begun to be theorised. The possibility of the creation of a class of small-scale intensive commercial farmers (the `small farm path') has been explored in a recent collection of case studies (Lipton et al 1996) and critiqued by Bernstein (1997). Apart from the intractable cluster of economic and institutional questions around the redistribution of high quality agricultural land to the rural poor, there is no immediately apparent social class or stratum with the the political will and organisational clout to push the current land reform programme in the direction of agrarian reform. There are, however, some elements in the well organised, economically powerful lobby of large scale commercial farmers who would resist such a move.

This is not to underestimate the extreme importance of redistributing what land can be distributed, securing the tenure of the poor, and encouraging the increase of what petty commodity agricultural production is possible (by the provision of water supplies and other inputs) so that there is less pressure on inadequate cash flows.

Auerbach (1997) reminds us of the complexity of the problem of realising the potential of a land reform programme to improve Mrs Mohlamonyane's livelihood in an `equitable, sustainable and environmentally healthy way' (Cecelski 1996), when he points out that despite obvious land shortages in the exhomeland areas, there is a surprising amount of underutilised land in these areas: `Energy for land preparation [mechanised and animal draft power] is the main energy requirement in homeland agriculture, and this is probably where the most serious energy constraints are to be found'.

To broaden access to the agricultural means of production on a meaningful scale so that resource-poor potential farmers (such as Mrs Mohlamonyane) could live on their profit would involve the state in full-scale agrarian reform.The state would have to mobilise massive funding for land purchases (or compensation to current users), infrastructure and farmer support. It would have to accept a poor initial return on this investment and be prepared to deal with a probable decline in commercial farming production as established farmers were unable to find or withdrew investment funds. Most importantly, the state would have to trade off urban against rural development; less resources could be allocated to urban development. In the current economic climate and political atmosphere, and in the absence of a rural social movement, this scenario is, at least in the short and middle terms, highly unlikely.

Spending decisions and other household resources

We have seen that increasing Mrs Mohlemanyane's control over resource allocation within her domestic unit involves her in domestic struggle, bargaining and and the contestation of power and authority at both household and community levels. Clearly this is not a change which can be effected at household level alone; and it may be physically dangerous to do so as an isolated individual action. There are currently many social and political initiatives which might support rural women to experiment with new forms of association to advance their interests as a group. New policy frameworks and international agreements such as CEDAW formally

encourage Mrs Mohlamonyane to claim her social and economic rights. This is new political space. Paths, however, are made by walking.

> The biggest barrier to organising rural women is their feeling of isolation from each other and the mutual suspicion. The dominant ethos is self-preservation and fear of disclosure. Women experience great shame about their lives – the fact that their husband has a girlfriend in Johannesburg, their teenage daughter is pregnant or that they can't afford to pay school fees this month. One of the keys to building organisation is for women to see the common basis of their problems. (Kompe et al 1994)

Women, time and production

If Mrs Mohlamonyane's time is so constrained by her unpaid employment in pursuing her livelihood,does household electrification represent an opportunity for labour saving and thus time saving? Will the electrification of her dwelling mean that Mrs Mohlamonyane will `save' the time she currently `spends' on fetching and carrying wood and that she will `invest' this time in `more productive' activities, thus obliquely or directly addressing the question of her extreme poverty and immiseration?

This logic is elegantly expressed by Shelembe (1997: 4):

> It is hypothesized that household reproduction time `takes away' from, or reduces the level of, the desired labour supply, which would otherwise be devoted to income generating activities. As a result of this reduction in desired household labour supply, the capacity of the household to generate more income is reduced....
>
> If this hypothesized relation (between the household income and the household reproduction, through its effect on the desired labour supply) is true, one can further argue that any given household could increase its income generating capacity by either increasing its labour stock or by freeing some of its time from the household reproduction activities....
>
> This reduction can be achieved through the provision of services such as water and electricity to rural households.

Women's time constraint is said to inhibit `household supply responses to market incentives' (Kabeer & Joekes 1991). That is, even if a market exists or is created for a commodity, women may not be able to respond vigorously to new opportunities for income generation. Their time is fully occupied with survival activities which cannot be dropped.

Mrs Mohlamanyane spends many hours a week collecting and, more importantly, carrying heavy loads of wood from place to place[20] (which may over time compress neck and back vertabrae and twist the pelvis so that `difficult births' are made more likely). As we have seen above, the use of at least three fuels tends to remain a feature of electrified households, even though higher income groups tend to collect less wood, and to buy more in, and the trend is towards a greater use of electricity. Women and children in these households at least, then, may `save time'. Under what circumstances might this `saved time' be invested in new or more intensely pursued livelihood strategies?

Labour can be intensified without necessarily raising living standards. `Development' initiatives which yield marginal profits but which are extremely time-consuming (such as school uniform sewing projects) may, in conjunction with electricity, actually lower the quality of rural life by increasing the length of the working day and decreasing the time available to

[20] James (1995: 87) weighed women and children and the wood they carried in Mabibi, Northern KwaZulu Natal. She calculates the average: woman, 54 kilograms, carrying wood, 22 kilograms – a wood to body weight ratio of 44%. The horrifying extreme: a 23 kilogram child carrying 17 kilograms of wood, a wood to body weight ratio of 74%. The table does not make clear how far in this case the wood was carried, but another table (1995: 84) shows that people walked between 1.42 and 4 kilometers to the major wood source, the coastal dune forest.

women for social interaction, rest and recreation, child-care[21] and cooking without significantly improving the material conditions of life (Cecelski 1996; James 1997).

In Onseepkans and Pniel in the Northern Cape, the `extra time' gained by the use of solar cookers was spent socialising, rather than `working'. The money saved on paraffin expenditure was donated to the local school and the church. In other words, the surplus did not come directly back to the household, but was spent in maintaining community relationships, resources and services (PDG 1997). In Huhudi, another solar cooker research site, people spent the money saved from paraffin costs on transport to town for socialising, shopping and entertainment (PDG 1997).

In Mabibi, a small settlement in northern KwaZulu/Natal, where woodfuel was used by the great majority of domestic units, women (and children) spent longer on wood collection when they worked together cooperatively (James 1995) – the sense of a shared task implying not so much a saving of time as *an increase in pleasure and sociability*.

The idea that time needs to be `saved' in order to achieve something else betrays the rational eye of economism. In the same way, an excess of wood does not necessarily mean that people use less wood, or use it more thriftily – they may indeed use it more wastefully. The surplus may be used to produce more warmth, extra comfort; or be invested in the preparation of foods that require long slow cooking (Cecelski 1996).

When people are already involved in wage-earning activities, they are more likely to need and to be able to afford labour saving services and technologies. Their experience of time changes. James (1995) reports a woman and her husband in Mabibi, a village in Northern KwaZulu/ Natal who both had paid jobs. For this couple, the question of `no time' to collect wood was presented as a good reason to buy a gas stove; there was a real, rather than a potential, opportunity cost. This couple had wage-earning work as teachers; by definition a minority solution, though a significant one for the many rural residents who are supported in some way by friends and relatives in the civil services of the ex-homelands.

Electrification and modernity

Will electrification of her home make Mrs Mohlamonyane a `more modern' person?

The modernising hope is that electrification will help to transform ('backward' or `stagnant') cultural, institutional and social attitudes that have, in some frameworks, been presumed to inhibit economic growth (SIETTI, cited in James 1995). Is rural household electrification associated with increased levels of literacy, production and\or income and greater identification with `the nation'? Will electrification result in greater uptake of family planning services, the reduction of fertility, and decreased child mortality?

There is little evidence of any of these outcomes as a direct result of rural electrification. Association rather than cause is more likely. Literacy and production are associated with one another, rather than in a direct causal connection; relatively privileged people with a better grasp on productive resources may also have had better access to formal education. Literacy, too, is not a simple matter – there are many literacies. What is the relationship, if any, between the massive national investment in good formal education made by Zimbabwe in the 1980s and the economic crisis that has resulted in increasingly high unemployment rates in the 1990s? When income levels rise, both child mortality and fertility decrease (Sanders & Werner 1997).

'We know relatively little'

We have seen that the role of energy in economic development is complex and overdetermined – there is no direct relationship between household electrification and increased production or levels of income. Furthermore, there is no evidence that very poor

[21] Child-care in the sense of `hanging out with children' – braiding hair; pointless and pleasurable playfulness of all kinds; `wasting time'. In short, giving meaning and significance to the immanence of life.

rural people will be able to make a `full transition' to the use of electricity, in the short or medium term at least.

Rural immiseration is associated with the lack of essential services such as clean accessible water and affordable, healthy and convenient fuels and appliances but not directly caused by them. Where there is a dynamic rural economy, the absence of electricity may be a significant constraint on output and living standards (Cecelski 1996: 15). The availability of electricity alone, in the circumstances in which Mrs Mohlamonyane lives clearly will not induce `economic growth'. However:

> In general ... it must be said that we know relatively little concretely about the impacts of electrification on women and children. Case studies and evaluations of the impacts of both centralised and decentralised systems on women and children are very much needed. (Cecelski 1996: 15)

The Draft Rural Development Framework

It is interesting to examine current policy thinking about integrated rural development in the light of these reflections. The Draft Rural Development Framework, published in April 1997, tries to bring together production, service delivery, governance, infrastructure and democracy in a laudable way. The document acknowledges the need for integrated planning both across sectors, (because of the way in which government is structured) which is inclusive of a range of interest groups, particularly the people at the bottom of the poverty mountain. The need to build the capacity of rural people to plan and implement a range of development initiatives is recognised as vital. However, in common with all who have been calling for this `obvious' step to be taken, there is no analysis of what has prevented and continues to prevent such initiatives at both national and local level.

The document grapples with the contradictory pressures we have alluded to above:

> South Africa needs to reduce its budget deficit. Government funding for all types of infrastructural development will therefore be scarce. The costs will have to be affordable within the constraints imposed by available budgetary resources. At the same time the expenditure must meet the need for growth in the economy.
>
> The expansion of infrastructure plays a number of crucial roles, including the provision of basic services, increasing the level of private investment, and enhancing efficiency and competitiveness. In combination, these factors add to new economic activity and thereby increase substantially the job creation potential of the economy.
>
> Rural areas are characterised by relatively high logistical costs, high per capita service costs, and poorly developed local government structures. *Where services are provided, the recurrent costs of all but the most basic services must be met by those who use them. This in turn requires a viable local economy.* Beyond the essential expenditure for meeting basic needs, investment must be justifiable on the grounds of its potential to raise productivity and incomes, and to generate the income to pay for services. (Rural Development Framework 1997; emphasis added)

As in the case of many of the other new policy intiatives of our current period, the framework does not contain a politics – that is, an understanding of the *rural social strata who may be created by, lead, or block such initiatives.* Its reliance on the notion of the provision of periodic markets as a major strategy for rural development is dubious. It assumes that the under-production so typical of rural areas has been created and maintained by a lack of markets, and, in conjunction with the reforms mentioned above, can be reversed by their creation and support. The destruction of local markets (which was accompanied by the increasing scarcity of rural labour) was only one feature of the creation of rurality in South Africa. There have been many other important processes of dispossession, particularly of the arable land and grazing resource. `Forced removals' completed the deliberate destruction by the apartheid government of many decades of rural capital investment. The destruction of social networks of human co-operation and co-production is particularly evident in the life of Mrs Mohlemonyane. Most rural production of any type now has to compete with well established national economies of scale.How, then, are the new markets to be sustained?

Is rural electrification a long-term social investment in rural stability?

Are Mrs Mohlemonyane and the other members of her domestic unit less likely to become migrant workers in the squatter settlements of the urban areas if their household is electrified?

In the international literature, one of the aims of rural electrification programmes is to `stem migration from the rural to urban areas' (Schramm quoted in James 1995). Cecelski (1996), on the other hand, suggests that insofar as the social distance between town and country is reduced by greater access to the mass media (especially television), far from making the rural areas a more attractive place in which to live electricity may hasten the advance of people to town.

In South Africa, where, as we have seen, rural and urban areas are locked into an asymetrical, unstable but entrenched relationship, circular migration is likely to continue into the forseeable future. Because of the extreme destitution of many rural areas, household electrification is unlikely to decrease rural urban migration. Many members of the Mohlamonyane household are likely to seek work as migrants in the conurbations for shorter or longer periods during their lives.

However, rural household electrification may contribute obliquely to the maintainance or even increase of the investment of urban wages in remittance as cash income for rural relatives, as capital for rural housing, or as investment in agricultural equipment or cattle. (Cattle in particular have multiple uses in rural livelihood strategies, and susceptible as they are to periodic drought, are an important indicator of relative wealth.). *Household electrification may be one of a package of services and new entitlements which may encourage long term social investment in rural stability.*

Rural areas for very poor people of African origin continue to provide important resources to support life in town – relatively secure tenure for old age or illness, a dumping ground or place of care, depending on circumstances, for children who cannot be taken care of under conditions of extreme urban stress. In the absence of any realistic hope of agrarian reform or significant rural economic development in the immediate future, rural dwellers are reliant in turn on support from the urban areas, in the form of regular or irregular remittance from wage earners, state pensions or subsidies, and, important for the elderly, child labour. Structural unemployment is a feature of the South African economy, and effective job creation to the scale urgently required to sustain a permanently urbanised population remains elusive. Under these circumstances many urban workers may need to continue to invest, or increase investment in the future, in rural households.

> *Given secure access to agrarian resources*, many migrants have reckoned that their basic reproductive costs can be greatly reduced, with their rural base providing a `safety net' for times of unemployment, ill-health and retirement. For that reason they continue to remit and use their incomes to fashion rural homes and networks. (Spiegel 1996, emphasis added)

While electrification is a service which may be considered, in the broadest sense, an agrarian resource, it is difficult to gauge the relative importance of household electrification compared to to a secure land resource, the provision of water supplies, communications (telephones, regular and reliable transport) and access to schools, clinics and shops. The recent closure of the only shop in Onseepkans, Northern Cape – the nearest alternative source of commodities is now 30 kms away from the little settlement – will significantly increase the poverty and daily hardship of the population. The shop was the only source of paraffin but also of many other necessities which are suddenly an expensive 30 kilometres away (Sejáke 1997).

Rural electrification may also be an important element in retaining urban-trained service providers (doctors, nurses, teachers) in rural areas by making their jobs less of a `hardship posting'. These individuals often provide scarce resources – community leadership, access to information, even transport in the form of private vehicles – which are vital resources in situations of extreme poverty. Electrification then, while it may not decrease urban migration, is an important element of a reversed benefit flow (from urban to rural areas) which by making

rurality a more attractive option for urban wage-earners in the long term, may help maintain or increase the remittance which is vital for Mrs Mohlamonyane's survival..

THE METHOD OF PROVISIONING INFRASTRUCTURE

If rural poverty is a result of powerlessness rather than ignorance, which political and social practices will need to accompany a technological intervention which aims to improve the social and economic status of rural people? Forms of association which link end users across households – *the method of infrastructure provisioning and servicing* – may be as important as service provision itself, if services are to be utilised and maintained over time. Investment in human development and in the associative strength of powerful interest groups within the strata of the rural poor is thus central to the implementation of a policy to mitigate rural energy poverty.

What Kabeer (1994) notes about the lives of women may usefully encompass the experience of socially, economically and politically marginalised people in general:

> Interests emerge out of different dimensions of social life, but they are always rooted in experience. Some emerge out of the routine practices of daily life – women's practical gender interests are relatively clear cut. Others are only likely to become discernible through engagements in different kinds of practice, which bring about a new basis for experience and knowledge from which to reassess the old one. It is the very restrictions on women's life choices that help to curtail their ability to `know' other ways of being and to engage in the analytical processes by which their structural, rather than individual, interests as a subordinated category come more clearly into view. Women may be aware of the circumscribed nature of their lives without necessarily knowing what to do about it.

As we have seen, (with the exception of the Rural Women's Movement)[22] there is as yet little evidence of `social movements' in the areas under discussion capable of organising rural people (or a rural stratum) to gain the political leverage needed to radically improve their access to resources such as land, education and political influence. What then can and should be done by an electricity utility to ensure Mrs Mohlemonyone's access to her social and economic right to energy services?

NGOs and `participatory' approaches to development

Since 1991 and the politics of negotiation, a number of NGOs and government departments in a range of sectors (land, health, energy, water) have experimented in the field and in their own organisations with experiential learning approaches and participatory development methodologies. For many NGOs, these approaches have by and large replaced the `soldier' work of mobilising communities for resistance against the state, and have increasingly been seen as an appropriate approach to the new challenges of `development'. Tools and methods have been adapted from a number of approaches – Training for Transformation, PROWESS-UNDP participatory methodologies, Participatory Rural Appraisal, PLA and others. Implicit in all these approaches and methods is a political critique of `the way things are'.

What participatory methods have in common is a vocabulary ('facilitation', `process') and an emphasis on an active 'partnership in development' between community member and outside development agent. PLA valorises `local knowledge' and practitioners facilitate `community planning'; SARAR facilitates `learning events' which encourage `participants' to develop their creative and analytic capacity to identify and solve problems, in order to reverse the vicious circle of low self esteem which helps maintain oppression and domination at both household and community level.

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[22] The pioneer of the Rural Women's Movement, Mam' Lydia Kompe, though born in Moutse, gained her political experience as an urban trade unionist – an example of the rural-urban linkage. The fortunes of the RWM have been fluctuant. Kompe is now in Parliament.

Though participatory methods may be used in a naively populist way (lacking as they do an understanding of `development' as a political intervention) these approaches at very least recognise the enormous importance of building self esteem and the capacity for imaginative, transcendent action through associative strength. These practices are an investment in the `politics of hope' – developing people as well as infrastructure (Korten 1984); they encourage the breaking of silences, the valorisation of personal experience, and the pooling of knowledge. In this way they challenge the politically, socially and economically marginalised to take responsibility for the reproduction of domination within and between households, kinship networks, landlords, employers, and the state.

The challenge for a distribution agency

While they may not have the flexibility or the skills of an NGO, a government department or a national utility is not absolved from the responsibility of adopting an approach to implementation which recognises electrification as a social process rather than merely a `transfer of technology'. The negotiation of social meanings should be taken seriously as a method of implementation. That is, policy frameworks should provide a reflexive strategy (and appropriate support) which ensures that implementers begin to find the right questions to ask the right people in a given locality, rather than attempt to provide centralised blueprint-type answers.

Research cannot provide definitive, generalised answers to social questions which involve concrete choices in a given locality with a limited budget. Qualitative research alone will simply generate a greater and richer diversity of information, news, and opinion. *The power is in the task. Big decisions need to be made in principle,and tested on site in practice.* Implementation which is designed to be interrogative, reflexive and adaptable *on site* will generate a more useful experience on which to reflect than a generalised strategy, however well informed and well intentioned. Reflection on implementation which takes into account the complexities of energy provision as an intervention into a local politics and social process, however, can and will raise higher order questions. These will themselves suggest further, more differentiated strategies.

It has been argued, and since much quoted, that Eskom is not a development agency but an electricity utility (Steyn 1996). While this may be currently true, new clients, new needs, new strategies and new values have challenged other large organisations to undertake difficult and painful processes of organisational change which have transformed their programmes, practices, organisational roles and responsibilities. The Department of Water Affairs and Forestry, The Land Bank, the Development Bank of South Africa and the National Parks Board are currently undergoing such processes (Gender Justice and Institutional Change National Workshop, March 1998).

This paper is in conscious support of those individuals and factions within Eskom who are interested in transforming the utility into an organisation that takes the development role of household and rural energy seriously, and who understand the enormous importance of the provision of integrated, appropriate and environmentally sustainable energy services for the very large percentage of the South African population represented by Mrs Mohlamonyane in this paper. Eskom is not a monolithic organisation, nor is it exempt from Brecht's observation that `only change is certain'.

Summary of conclusions

- The focus of the rural household electrification programme should change and broaden in order to recognise, in its method of implementation, electrification as a social process.
- Mrs Mohlamonyane is not a `customer' for electricity She is, however, in desperate need of a range of energy interventions, which will help her, in part, to fashion a life which is less `difficult'. Electricity is only one `satisfier' of a complex range of rural household energy needs.
- Mrs Mohlamonyane has a social and economic right to energy services: she has a right to a current-limited supply of grid electricity, at a nominal prepaid rate, which would give her

access to electric light and media. Farm dwellers have the same social and economic right, but need a different electrification strategy and a specific research focus . At present solar electrical systems cannot compete without subsidy with grid electrification in terms of cost and efficiency but if a large number of people in Mrs Mohlamonyane's position were solar-electrified, solar systems might become more viable.

- Some rural people, particularly those who own micro-enterprises, have the capacity to become `customers' and would be best served by a 20A supply and a prepayment meter. Electrification cannot solve the problem of *intracommunity equity* in the areas under discussion. Intracommunity equity has been irrevocably undermined by the experience of and response to dispossession, apartheid, and `homeland' rule.

RECOMMENDATIONS

- *Eskom initiates an internal `transformation process'* – an organisation-wide `value clarification' exercise or a series of widespread consultative, facilitated meetings which would help to surface the `power debates' both within the organisation, and within the field of rural electrification. While such processes are often viewed as expensive and risky, they also liberate energy, good ideas and commitment to a common task, commonly defined.
- *The brief of Eskom's (or a RED's) subcontractors broadens so that they become implementors of an energy strategy, intervening into a local system of meanings and a local politics, rather than the technical deliverers of electricity to `new customers'.* The Eskom subcontractors would operate in a similar way to Department of Water Affairs and Forestry subcontractors, whose teams include `project agents', many of them from settlements in the programme region. These team members organise interest group meetings at intracommunity, community and local government level, disseminate information, and prepare communities to deal with implementors. Project agents are instructed to integrate their work with the work of other service providers. Local preference is catered for by allowing local choice of an appropriate system within the limits of a household subsidy.
- Eskom contracts energy researchers to work within implementation teams in order to provide a reflexive capacity to help guide the hard choices that implementors inevitably make on the ground.
- Mrs Mohlamonyane cannot make informed choices – that is, accept or reject a supply option – without appropriate information about the costs and implications of both electrification and non-electrification. This should be regarded as the first phase of all electrification programmes. *Local capacity building is initiated in a face to face way as part of, but ahead of, the work of the installation team in each area.*
- Mrs Mohlemonyane's ongoing use of and periodic preference for wood fuel for thermal end-uses is recognised and supported by the initiation and encouragment of community and household woodlots and co-operative buying and transport of wood.
- *Mrs Mohlemonyane's economic and social status – (her political situation within both household and community) is recognised and strategically addressed.* Consultation with chiefs, local government officials, or even local electrification committees cannot be assumed to imply her consent, represent her particular interests , or inform her use or abuse of electricity .
- *Eskom accepts that a primarily social, rather than technical, approach to implementation will slow down delivery, but increase effective use of electricity in the long term.* Post-electrification studies will establish efficiency criteria which take into account the effect of Mrs Mohlemonyane's energy choices in a holistic way (both monetary and non-monetory costs and benefits).
- *Eskom accepts that Mrs Mohlemonyane will continue to use multiple fuels and offers a support strategy.* This means, for example, that *Mrs Mohlemonyane is able to aquire a*

cheap, efficient and safe wood stove, via a financing scheme, which is promoted through marketing campaigns and wide distribution,and which directly addresses the health and safety issues associated with open fires in unventilated domestic spaces. *Mrs Mohlemonyane is able to buy a SABS-approved paraffin stove* designed with her needs and domestic space in mind. *Mrs Mohlemonyane is able to conveniently and cheaply access gas* (in a safe container) and to overcome her fear of it as a dangerous fuel by learning how to use it properly.

- *A wiring finance scheme is initiated and strongly supported to run with the implementation programme, area by area,* (involving community institutions supported by Eskom and government), *so that Mrs Mohlamonyane effectively replaces rather than augments her lighting sources* (candles and paraffin).
- Qualitative, comparative case studies of implementation on the ground become a research focus. Researchers accompany the current implementation process in a range of settings and observe and reflect on the actual practices and strategies of implementors as well as end-users as they participate in a process of social change. Implementors on the ground are likely to have developed, in the course of their duties, valuable insights which their reports do not communicate to researchers or policymakers.
- *Government and Eskom energetically sponsor appropriate mass media campaigns which continually inform Mrs Mohlamonyane of her energy rights, as well as health, safety and efficiency information.*

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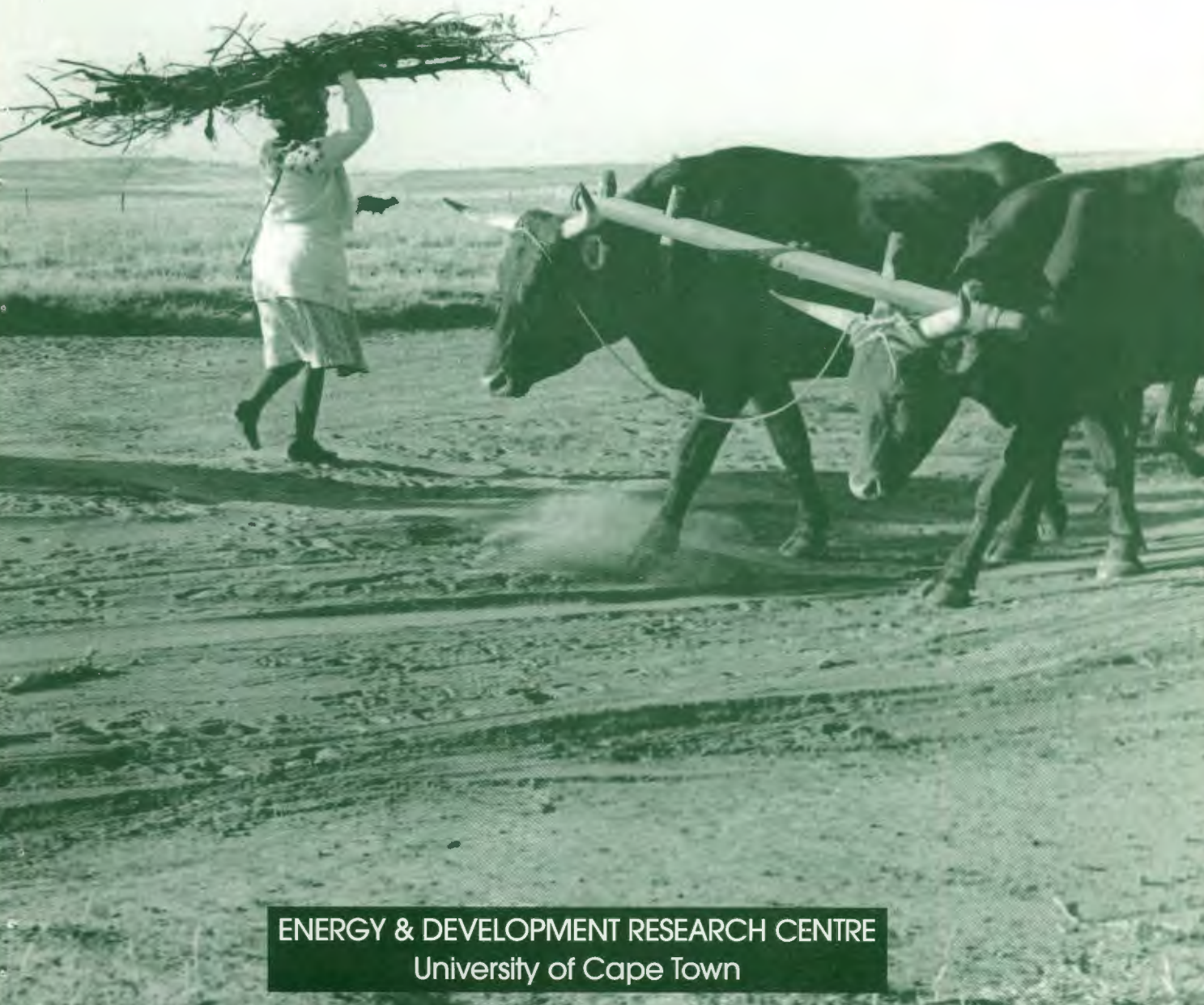

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