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Explaining the non-implementation of health-improving policies related to solid fuels use in South Africa



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HIGHLIGHTS

- Policy non-implementation in developing countries focuses on lack of resources.
- We add policy inheritance and policy symbolism to assess non-implementation.
- South Africa's racial politics affect how policies are perceived and implemented.
- Politically, firewood and electricity symbolise repression and emancipation.
- Electricity and firewood's symbolic meanings affect policy makers' focus on these.

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ABSTRACT

In 1998, the South African government developed an energy policy that focused on a pro-poor agenda. Its objectives included addressing the health impacts of solid fuel use in households. Fourteen years later, and with household electrification at over 80%, millions still use solid fuels and yet ambitious policy objectives to address this situation are not being met. Using three theoretical frameworks; institutional capacity, policy inheritance and the symbolic use of policy, this paper analyses the reasons why household energy policy objectives related to solid fuels and health, as stated in the 1998 South African energy policy, have not been implemented. The results of the analysis show that the symbolic use of policy, including meanings of objects used for meeting policy objectives is the most critical explanation. The paper illustrates that political and historical contexts are critical to understanding policy outcomes in developing and transition countries which often experience tensions between implementing what may seem as objective policies, and that matches their political and historical experiences and aspirations. We recommend that policy analysts in the energy sector complement currently common methods to include political contexts of policy development and implementation in order to better understand why policy makers chose to implement certain policies over others.

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1. Introduction

Energy policy serves a number of policy objectives related to economic growth, and specific social objectives such as improving health and education. However, not all policy objectives stated in policy documents are given the same attention or even implemented. Over the last few years, with few exceptions, the lack of financial and human capacity has been blamed for this unequal attention and non-implementation of beneficial policies (Karekezi, 2002; Zerriffi, 2012; Difulio, 2012). The political and historical context in which policy choices and their implementation are

made is often ignored, with few exceptions (Williams and Dubash, 2004; Buscher, 2009). In this paper, we explore the reasons why in South Africa, energy policy objectives aimed at reducing health impacts of solid fuel use in households have not received the same attention as other objectives in the same Energy Policy. We look beyond resource constraints and show that even when resources are available for implementation, other factors related to the way in which energy is perceived in its historical and political context can act as barriers to implementation.

2. The importance of energy policy that addresses solid fuels and health

Epidemiological studies have shown that the use of traditional solid fuels such as biomass, dung and coal, for cooking and heating

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in households causes and exacerbates respiratory infections. Indoor air pollution (IAP) from solid fuels is estimated to be globally responsible for 1.9 million deaths per annum (WHO, 2009; Dherani et al., 2008). These respiratory infections largely affect women – who are chiefly responsible for cooking – and children under the age of five who are exposed because they are often around their mothers during cooking.

Apart from IAP, exposure to smoke from firewood and coal leads to eye irritation which has been linked to the onset of cataracts (Visser and Khan, 1996; Díaz et al., 2007) and to headaches (Díaz et al., 2007). Those that carry firewood on their heads, a common practice in sub-Saharan Africa including South Africa, and in parts of Asia, experience musculoskeletal injuries and chronic pain (Joosab et al., 1994; Echarri and Forriol, 2002, 2005; Matinga, 2010) and can possibly suffer miscarriages (Haile, 1989, 1991). In other contexts, more difficult to catalogue, are the incidents of sexual harassment (HRW, 2005; MSF, 2005; Kasirye et al., 2009) and other forms of physical violence while out collecting firewood.

A part of the solution to the above-mentioned health impacts of solid fuel use is through the use of cleaner cooking energy such as electricity, LPG, or efficient cook stoves. For low income households that may not afford electricity and LPG, efficient cook stoves represent an important option because they can be locally made and are low cost. There is a body of research showing that stoves which have improved firewood combustion and efficiency, and LPG can reduce indoor air pollution and improve health (Albalak et al., 2001; Bruce et al., 2006). Efficient stoves and LPG may also reduce the amounts of firewood needed, and hence the weights head-loaded and frequency of head-loading. Although paraffin (kerosene) is sometimes considered as a viable transition fuel from solid fuels and is extensively used in South Africa in low income households, it is controversial because of negative impacts that include fire hazards (Butchart, 2000), accidental poisoning among children (De Wet et al., 1994; Malangu et al., 2005; Lang et al., 2008), and because its fumes have been linked to respiratory infections including increased susceptibility to tuberculosis (Venn et al., 2001; Dagoye et al., 2004; Pokhrel et al., 2010). South Africa itself experiences a heavy injury and mortality burden as a result of domestic paraffin use (Butchart, 2000; Rode et al., 2011).

There are inherent difficulties in addressing solid fuel substitution, especially compared to implementing electrification programs. Electrification generally involves top-down, supply-push strategies with little attention to how consumers respond, and little immediate disruption of household activities such as cooking and firewood collection which are closely linked to culture. In contrast, substituting solid fuels requires interactions with household individuals and requires that they engage in behaviour changes, contend with new flavours in their food, and invest in new technologies or fuels among other things. In addition, electrification is often under the responsibility of one ministry and hence easy to plan and coordinate once resources are available. In contrast, no one ministry has traditionally been responsible for solid fuels such as biomass since it often falls under various ministries such as forestry, rural development, and energy, making roles and responsibilities for planning, coordination and implementation unclear.

Despite problems of implementing national level solid fuels programs, countries such as China, Kenya and Ethiopia have – in as far as outreach is concerned – implemented extensive programs. The Chinese National Improved Stove Program disseminated over 129 million improved stoves, mostly biomass cookstoves within a decade and over two-thirds were still in use over a decade later (Smith et al., 1993). In Kenya, over 50% of the urban population use the Ceramic Jiko stove, which has mostly been disseminated using a commercial model (Kammen, 1995; Goldemberg and Lucon,

2010). In Ethiopia, also largely limited to urban areas, the Mirte stove is used in over 65% of households in Addis Ababa (ESD, 2000).

3. The extent of solid fuel use and its impacts in South Africa

Over 80% of households in South Africa have physical access to electricity (DoE, 2009) while about 3.4 million households have no electricity (Barnard, 2012). Households without electricity and low-income households with electricity use coal (in urban and peri-mining areas), firewood, dung and paraffin. Estimates of the number of households using coal, firewood, dung, and paraffin vary but according to Department of Energy (DoE), up to 35% of electrified households use these fuels, with 27% of these using solid fuels as the main source of energy for cooking (DoE, 2009).¹ These estimates however account for main fuels only and not all fuels used for cooking—an approach that likely underestimates the number of households using solid fuels. For example, a study by Mdluli and Vogel (2010) showed that about 80% of electrified households in townships continue to use coal for their thermal needs. In rural areas, the majority of households use firewood and to a lesser extent, paraffin several years after electrification (Matinga, 2010; Madubansi and Shackleton, 2007; Prasad and Ranninger, 2003). The reasons are economic, social and cultural, which if not addressed act as barriers to households' adoption of clean cooking energy (Davis, 1998; Madubansi and Shackleton, 2007; Matinga, 2010). Thus electrification alone is not a sufficient intervention to address the health problems related to the use of solid fuels in households with low incomes. In addition, given that electricity prices are to increase by an average of 25% per annum between 2010 and 2013 (ESKOM, 2010), and given power cuts caused by high demand especially in winter, it is reasonable to assume that solid fuel use in such households is likely to increase.

There is no agreement on the number of deaths resulting from the combustion of biomass in South Africa: estimates vary from 1000 per annum (WHO, 2007) to as many as 2500 deaths per annum (Norman et al., 2007). However, these may be an underestimate since the data in these assessments assumes that when households are electrified, they switch from solid fuels to electricity. Evidence to the contrary however shows that even after electrification households use a combination of solid fuels, paraffin and electricity (Matinga, 2010; Madubansi and Shackleton, 2007; Prasad and Ranninger, 2003; Davis, 1998). Given this state of affairs, to what extent have energy policy objectives aimed at reducing health impacts of solid fuel use been implemented? We explore this question in the next section.

4. The implementation of the solid fuels and health policy objective

The South African government's 1998 Energy Policy responded to the evidence on solid fuel use and health by committing to reducing these health impacts by promoting an energy transition from solid fuels (DME, 1998). This commitment is one of South Africa's five main energy policy objectives, signifying its relevance and potential.

¹ The 2011 South African Census estimates 73.9% of households use electricity for cooking (STATSSA, 2011). The figure is not stated as the main energy source or one of the energy sources and summing the stated proportions of cooking fuels in this manner suggests that no households use multiple fuels for cooking, a picture that is at odds with experiences of the authors as well as other research. For these reasons, we have opted not to use the Census results as the basis for energy use patterns in South African households.

At the micro-level, the potential benefits for effectively implementing the solid fuel substitution policy include improved health and socio-economic benefits for households and communities. At the macro-level, the benefits of implementation include avoided public health expenditure and progress towards development goals such as reducing child mortality and reducing inequalities. The policy objective to reduce impacts of solid fuel use is then in line with the post-apartheid commitment to restitution and the pro-poor stance taken by the post-apartheid government.

In reality, implementation of policy for the biomass sector has mainly been confined to the Biomass Initiative (1992 to 1994), with 170 demonstration projects funded across South Africa. It aimed at contributing to resolving energy issues in rural areas (Williams et al., 1996). However, these projects focused on tree planting and nursery management and hence on firewood supply enhancement. It did not research, develop or promote cleaner cooking technologies or fuels. In addition, the period of implementation – two years – is inadequate to introduce sustainable change in cooking practices.

In terms of coal use, the most prominent program has been the Basa Njengo Magogo (BNM), a programme aimed at changing fire lighting techniques in traditional coal stoves to reduce emissions (DME, Undated; Surridge et al., 2005). There were also efforts to research and introduce the use of low smoke coal. The BNM programme has been promoted in the Gauteng area where coal use is the highest.² While the geographical target is appropriate, BNM is inadequate because it does not reduce heavy metals emissions, such as lead, mercury, or arsenic which are implicated in cancer among coal users, nor does it reduce sulphur dioxide, and not all coal using areas are covered by the program. A low smoke fuels programme largely targeted industrial users of coal and not households—who purchase their supplies on the informal market.

In contrast to the two programmes above, electrification has targeted both rural and urban areas, country wide, and as the next section will show, there has been a disproportional allocation of resources between the various solutions. The question is, with such important implications for the majority of the population, why has there been so little effort to implement this health-related policy objective in parallel with electrification? In the next sections, we explore whether this is a result of lack of capacity to understand the issues around health and solid fuel use or lack of financial resources.

5. Resource capacity for implementation

The topic of household energy for low income households had been largely neglected in the apartheid period. The change of government in South Africa to a non-racial democracy in 1994 precipitated the transformation of the public services and replacement of civil servants to achieve, among other goals, a racially representative public sector work force. These new civil servants often lacked experience in their positions, so there was a transition period in which the out-going civil servants passed on knowledge and skills to the incoming ones. Programs were established to create policy development and implementation capacity. Thus there was within the country a broadening of the knowledge base capable of making recommendations on policies and actions for implementation, such as University of Cape Town's Energy Research Centre, the Council for Scientific and Industrial Research (CSIR) and University of KwaZulu Natal. Starting with the

transition period from the late 1980s, the question of energy services for the poor emerged strongly. From 1987 there was an increase in energy research focusing on low-income households including on the health impacts of biomass use (Terblanche et al., 1993) and hence the capacity for research and policy advice in South Africa emerged. A review of about 100 rural-energy studies in South Africa between 1979 and 1994 shows only five studies on rural energy between 1979 and 1986, but seven rural-energy studies in 1989 alone (Ward, 1994: 13). There has since been government funded research on health and solid fuels such as that by CSIR on IAP (Terblanche et al., 1993), a study on sources of pollution for the clean coal development (Annegarn and Grant, 1999) and on identifying and quantifying sources of pollution (Scorgie et al., 2004). However, implementation of their research recommendations has been low.

In terms of financial capacity, the pursuit of the pebble bed modular reactor (PBMR) nuclear project and of electrification illustrate government's ability to mobilise financial resources for its commitments on energy. The PBMR project spent R8.8 billion (US\$1.3 billion) by 2009 within 12 years (Ruiters, 2010), while the electrification programme is estimated to have cost the government at least R10 billion (US\$1.5 billion) in 10 years up to 2003 (Gaunt, 2003). There are no extensive biomass or clean cooking energy initiatives and a comparative analysis in costs is impractical to make. However, expenditure on clean cooking solutions has been minimal compared to these two programs.

The lack of national level resource commitment to activities to address the health impacts of household solid fuels use, while billions of Rands were committed for nuclear development and electrification, indicates that sourcing finances, and hence financial capacity, was not a critical factor in the non-implementation of the biomass-health policy objective. Moreover, the costs of implementing a nation-wide efficient biomass use or cleaner fuels programme to reduce health impacts are likely to have been lower than the costs of PBMR, for example, but with wider social benefits. The low costs of providing cleaner cooking options are further highlighted if externalities of using inefficient, smoky fireplaces, in terms of the health costs of respiratory infections, headaches and other health problems experienced by cooks, and the costs of musculoskeletal injuries experienced by firewood collectors, are taken into account.

This analysis shows that while efforts were made in South Africa to create capacity – both human and financial – for nuclear power and electricity, there is no comparable effort for addressing biomass use and meeting the health goals articulated in the energy policy document of 1998. Thus despite the appropriate objective for addressing indoor air pollution, it is not the lack of human and financial resources that impairs its implementation. This provokes the question “Why the focus on electricity? Is it because of the policy path inherited from the previous government?” We explore this possibility in the next section.

6. Policy inheritance

Policy has its own history and does not start in a vacuum. New policy actors have a choice to either continue with the policies they inherit from a previous administration (possibly in a modified form) or to depart from past legacies and follow alternative strategies to implement their choice of instruments (Collier and Collier, 1991; Thelen, 1999). On the other hand, politicians, upon coming into power inherit commitments of past office bearers in which budgetary and legal commitments by previous governments create a constraining legacy within which new policy-makers build their own policies (Rose, 1990). For departures from legacies to occur, there is a need for crucial founding

² Gauteng is one of South Africa's nine provinces. It is largely urban and includes the cities of Johannesburg and Pretoria (Tshwane).

moments and a reconfiguration of the social and political context (Ikenberry, 1994) that allows for new justifications and explanations and therefore new mandates or policy spaces. In this section we examine whether the non-implementation of energy policy objectives related to solid fuels and health in South Africa is as a result of policy inheritance.

Policies that focused on electrification existed during apartheid but excluded many social and racial groups as beneficiaries. However, Ikenberry's crucial founding moments for reconfiguring the social and political context of policies did occur in South Africa during the transition from the apartheid government to the post-apartheid government. This moment formed the basis for new commitments to address the needs of the poor and policies and institutions were expected to work towards that end.

An analysis of policies that affected firewood use shows that forest administration addressed firewood problems since the beginning of the 20th Century during the colonial era (Tropp, 2006). However, the focus of such policies was on limiting the collection of firewood in order to protect forests. In the 1980s – during the apartheid era – South Africa's Department of Minerals and Energy (DMEA) similarly focused on environmental degradation attributed mostly to household firewood use (DMEA, 1985). As with colonial forestry policy, the apartheid period government did not extend its actions to address the effects of biomass collection and use although some of the earliest publications on health effects of biomass use were from South Africa (Palmer and Daynes, 1967). Both Annecke (2003) and Marquard (2006) show that the Minister responsible for the DMEA at that time did not consider firewood an energy issue, but rather a forestry issue. Meanwhile the Department of Forestry saw their role exclusively as preventing deforestation at the supply end and not as one of contributing to changing the fuel supply mix or how it is used.

In terms of coal usage in households, there was little specific policy or action within the DMEA in the apartheid era to assist with cleaner coal use. Household coal use developed largely in a free market where households bought coal and stoves from the private formal and informal sectors and did not have interaction with government agents. The initial legislation addressing pollution from coal stoves was in 1965, amended in 1973 and again in 1981, and required local government to take necessary measures to address smoke from coal stove. This was focused on affluent "white" areas where it could be enforced and where the population grew increasingly aware of its health impacts, and complained of impacts of coal smog from "black" townships on their own health. However, this legislation soon became obsolete because households in this affluent socio-economic stratum and geographic areas transitioned to using gas or cheap electricity for their thermal needs. The awareness of health impacts of coal pollution triggered research in the early 1990s, some of which continued to be supported when the government changed in 1994. These studies showed that coal use in households was a critical source of pollution, and, after apartheid, this led to the development of the low-smoke coal and the BNM fire lighting technique.

Thus the focus on pro-poor policy objectives in the 1998 Energy Policy document is a departure from the previous focus in three distinct ways. The first was that policy text acknowledges and commits to addressing the health impacts of household solid fuels use. The second is that there is some research and a small number of initiatives aimed at addressing energy-health problems, although comprehensive action remains largely absent. Third, radical departures from the past have occurred in the energy sector, as is the case with the *Electricity for All* policy, as opposed to the neglect of the poor that largely characterised the policies during the apartheid era.

Upon coming into power, the ANC had change as a key aspect of its mandate and goal. The changes that the ANC implemented in

various policies and sectors were radical but were generally accepted as necessary by the electorate. Their opportunity to implement the solid fuels-health goals as stated in the Energy Policy (DME, 1998) included this public acceptance of their change-focused pro-poor policies, the enactment of new legislation, new budget allocations and new implementation strategies, all of which are indicators of a creation of new policy legacies (Rose and Davies, 1994) rather than inheriting the old. However, the implementation of the policy objective related to the use of solid fuels and their health impacts were part of that radical departure. We propose that it is the symbolic meanings attributed to different energy forms that have been a key factor in how policy objectives are prioritised for implementation. We further propose that the policy objective itself was symbolic and not intended to be implemented. In the next section we begin by describing the theoretical basis for our supposition and then apply it to the energy policy for addressing solid fuel use and health.

7. Symbolic meanings of electricity and firewood, and their influence in policy implementation

From an interpretivist approach, policy implementation or non-implementation may be because of the different interpretations that agency staff members, clients and other policy stakeholders bring to policy formulation and implementation (Yanow, 1993, 1996). On one hand, politicians and policy makers may promote and implement specific policy objectives, solutions and technologies because they hold particular meanings. From an interpretivist perspective, policies and technologies for fulfilling these, such as power stations, specific fuels or stoves, are symbols that stand for something other than themselves. They "evoke attitudes, impressions, or a pattern of events associated through time, through space, through logic, or through imagination with the symbol" (Edelman, 1964). Under this perspective, one cannot neglect the role of policy makers' life experiences, histories and culture in the analysis of policy making and implementation.

Another way in which policies can be symbolic is when policies are written down but are not implemented. This can occur even when there are sufficient resources because such policies were not meant to be implemented (Edelman, 1964). By outlining them, elected leaders can show concern for an issue without actually committing resources to it (Schneider and Ingram, 1993). In the next section, we will show how policy symbolism – in the two forms described above – explains the priorities in implementing energy policy objectives in South African.

7.1. Electrification in South Africa from colonial period to end of apartheid

Initial growth in electrification in South Africa was during the colonial period, driven by a growing mining industry but by the 1930s electrification was being extended to households including in rural areas, for example in the Western Cape (Christie, 1984). The criteria for household electrification included various economic and technical criteria that resulted in the exclusion of the majority of black households due to the socio-economic structure enabled by apartheid. In addition, racial segregation policies provided little political will for electrifying black households (TRC, 2003). As a result, even at times when electrification was implemented for social rather than economic reasons, black households were largely left without access to electricity.

Prior to 1990, less than a third of the households in South Africa had access to electricity (Bekker et al., 2008). Reflecting racial disparities in the wider society, over 99% of white households had access to electricity, while more than 90% of black

households did not. Electrification stood at 90% among Asians, and 64% among coloureds (Murphy, 1993). This state of affairs directly reflected apartheid ideology which positioned whites as superior, followed by Asians, coloured, then blacks. Black households therefore depended on firewood, dung, and to a lesser extent on coal and paraffin. Thus from the apartheid years, household electricity access came to symbolise the historical advantages of white South Africans, while firewood and coal came to symbolise the disadvantages the many basic goods and services denied to the black population. Power lines that supplied white households, including those in isolated rural areas, while crossing over but not supplying black households, became powerful symbols of the ideology of racial superiority for those who subscribed to apartheid and sent a similar message to those that suffered under it. An example is the power generation plants that towered over the un-electrified townships such as Orlando Township in Johannesburg, while the electricity produced there was fed into the grid (Annecke, 2003) and consumed elsewhere, largely by industry and white electrified households.³ Although blacks in townships were more advantaged in infrastructure access compared to rural areas, by the early 1990s, only about 10% of black township households had electricity access (Murphy, 1993).

Modern energy was also a political tool for the black resistance movement. Electricity was a channel for resistance through the refusal to pay for electricity bills among the few black households that had electricity (Booth, 1998; Ottaway and Carothers, 2000; TRC, 2003). Further, in 1969 the ANC officially sanctioned the sabotage of infrastructure as a legitimate form of protest, and power stations and electricity transmission lines were on the list of main targets (ANC, 1969). In the 1980s, agents of *Umkhonto we Sizwe*, the ANC military wing, sabotaged key energy infrastructure such as the Sasol coal-to-oil station in 1980 (Payne and Fischer, 1988; Ellis and Sechaba, 1992; TRC, 2003), the Koeberg nuclear power station in Cape Town in 1982 (Laufer, 1982; TRC, 2003), and the Umtata substation in Transkei in 1985 (TRC, 1997). The destruction of such infrastructure, whose resulting services were denied to black people, disrupted government function and public services. For blacks fighting apartheid, such sabotages were interpreted as a symbol of the liberation movement's capacity to destroy the apartheid state and resist subordination.

Given this history, in post-apartheid South Africa, electricity, firewood and coal continued to be symbolic. While the electrification of households in formerly black residential suburbs in the post-apartheid period serves substantive policy needs, its pursuit without complementing initiatives, including addressing solid fuel and health objectives, underline electricity's symbolism. Electrification came to symbolise triumph over repression and a source of pride for both the government and the previously un-served households. In a way, as the electric power lines began to reach black communities, they further symbolised the transfer of political power from a privileged white minority to a previously marginalised black majority. Thus in the context of South Africa's racial history, electricity is more than physical infrastructure.

After apartheid, firewood and coal have maintained their symbolism, which explains why policies that support households that continue to use these fuels have been relegated to non-priority status. These fuels remain symbols of black disadvantage strongly linked with the colonial and apartheid histories. Therefore implementing policies that acknowledge continued

widespread use of firewood and coal, mainly among low income black households, would be seen as continuing support for a symbol of oppression of black South Africans. In an interview exploring why there were virtually no programmes to improve biomass use in rural areas, one Department of Energy (DoE) official said:

At that time [of the democratic transition] if you suggested firewood [policies], it was like you were the enemy. The feeling in the Department was that the whites made us use wood so now everyone can use electricity. From my training, I knew biomass would continue but I could not say much. I was the only black in the department before; I had worked with the white men. The new men, the black men, did not want to listen. They just wanted electricity for everyone so no one could say much. (DoE Personnel, 2009).

Such attitudes, illustrated by the lack of resource commitment to the solid fuels and health objectives signify that despite being stated on paper, these policies were not meant to be implemented. Indeed it was researchers such as those at the University of Cape Town and CSIR, some of whom had fought racial discrimination, who advocated for pro-poor orientation of the 1998 Energy Policy, including efforts to address household fuel use.

Policy symbolism, while neither good nor bad, blinds both policymakers and recipients to the context (Edelman, 1964). In the case of the South African energy sector, such symbolism blinds stakeholders to the fact that solid fuel use and its associated health impacts continues to affect low-income and largely black households. According to Norman et al. (2007), almost 99% of the burden of disease – both in terms of death and loss of healthy years – from indoor air pollution caused by solid fuels use is borne by the black African population. In this context, the symbolism of electricity on one hand, and firewood and coal on the other, weakens the ideals of post-apartheid South Africa to improve the health and social status of black South Africans.

Policy symbolism related to electricity is not a uniquely South African phenomenon. Ferguson (1999) and (Winther, 2008) show how electrification after independence in Zambia and Zanzibar respectively was pursued as a symbol of creating a modern state. Similarly, in India electricity was pursued as a symbolic break with British rule (Coleman, 2008) while in Thailand where electricity was pursued as the king's personal project from 1884, the symbolism of electricity is captured in the notion of *fay laung*, meaning the king's electricity (Williams and Dubash, 2004). In Russia during Lenin's era, electrification was a way of consolidating power and reacting to Western democracy and criticisms of communism and Lenin's ideas of a utopian state (Banerjee, 2003; Coopersmith, 1992). A common outcome in many of these symbolic pursuits is a blinding to the other realities of energy access and use while transmitting powerful meanings of new nationhood and identity.

8. Conclusion

This paper has analysed the reasons why household energy policy objectives related to solid fuels and health stated in the 1998 South African energy policy have not been implemented. Three theoretical frameworks; *institutional capacity*, *policy inheritance* and *the symbolic use of policy* have been used to undertake this analysis. The analysis shows that, of the three frameworks, the symbolic use of policy, and meanings of policy objects such as electricity, firewood and coal, is the most compelling explanation in the non-implementation of household energy policy objectives related to solid fuels and health in South Africa. This symbolism has come about as a result of the colonial and apartheid history in which black populations were denied access to facilities and

³ Although Orlando Power Station was built between 1939 and 1943 (Annecke, 2003) and apartheid was not a formal system until 1948, the non-provision of electricity to black households persisted for decades before 1948 and afterwards. Moreover, racial segregation in South Africa and many other African countries existed for years, formally and informally, before 1948, and it continues up to the present in many forms.

infrastructure including electricity. This has led to a focus on electrification without acknowledgement of the contextual realities that show that the majority of households continue to use solid fuels after electrification, and hence to experience the adverse health impacts of solid fuel use. The analysis also shows that the policy objective itself was symbolic in that it was stated but the commitment to implement it was lacking as can be judged by how few resources were committed to it.

The importance of policy symbolism in explaining non-implementation of stated policy objectives in South Africa shows the need for broadening of policy analysis frameworks from the commonly used analytical frameworks which neglect political contexts. Political and historical contexts are especially critical to understanding policy outcomes in developing and transition countries which often experience tensions between implementing what may be seen as objective policies but is at odds with the country's political and historical experiences. The paper shows that collective human subjectivity, cultural and political ideologies are relevant in policy analysis. The paper calls on policy analysis to go beyond current analytical frameworks which are largely managerial, technical and apolitical, to include critical analysis of political and historical context that affect how policy makers perceive, and hence act on different policy objectives.

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