

THE NEED FOR A NATIONAL RURAL ENERGY POLICY AND LEGAL AND REGULATORY FRAMEWORK

Prof. Jorry M. Mwenechanya
Chairman, Energy Regulation Board, Zambia

A presentation to the *Regional Conference on Enabling Environment for Private Participation in Rural Energy Service Delivery and Financing in the SADC Countries*,

Windhoek, Namibia – April 15-16, 2004

1. Introduction

Rural communities in poor countries are key to increased economic production and to social progress. In the SADC region the rural population can make up to 95% of the total, an overwhelming number whose contribution to the economy is severely muted due to the inadequacy of policies, strategies and institutional frameworks for development. Furthermore, rural communities bear a disproportionate burden of underdevelopment, in comparison to their counterparts in urban centres. Hunger and illiteracy rates are higher; access to education is lower; and avenues for breaking out of the poverty trap, if not entirely nonexistent, are elusive. The provision of energy services is at the core of any serious endeavour to confront the problems that rural communities face.

2. Policy Imperatives

Any policy is devised in order to provide a framework for systematic action. Such a framework arises from a conviction that the status quo is inadequate, unsatisfactory or simply archaic in the light of experience, and viewed against the perceived opportunities and desired outcomes. The current use patterns of energy in the rural areas and the way that the energy is accessed are clearly unsatisfactory. Even where, in spite of unsatisfactory energy services to the rural areas, national economic growth is possible, such growth is meaningless if it does not touch the lives of the majority of the people. Predominantly, these people are in the rural areas.

Energy in the rural areas is used mainly to meet household needs for cooking and heating. Some studies estimate that this accounts for about 85% or more of the total energy used. This means that very little energy, other than human and animal, is used for productive agricultural activities, the main source of livelihood. This kind of ratio alone is a matter of concern because it implies that the preoccupation with the rudimentary requirements of food preparation and keeping warm leaves little space for productive activities.

Furthermore, the energy used is predominantly of the traditional type consisting of woodfuel and animal dung, averaging between 70 and 75% in the SADC region, but much higher in individual countries like Malawi and Mozambique. The issues that this raises are much discussed in conferences and workshops and are well documented. They range from environmental concerns - especially desertification - to issues of health for mothers and children. In addition, the laborious work of ensuring availability of household energy falls mainly on women, thus making gender a primary focus of attention for any policy measures.

The corollary to the dominance of traditional energy forms in rural areas is that very little commercial energy is in use. Kerosene and electricity, where available, are used for lighting and, in the case of electricity, for powering radios and other small appliances. The low access to electricity is a major concern because of the potential it has to transform rural life. It is inappropriate to compare kerosene and electricity in general, suffice to say that of the two, electricity is the cheaper for producing the same amount of light.

3. Current policies

In the region, and probably in the whole of sub-Saharan Africa, there is universal agreement that massive improvements are needed in rural energy services and there is also considerable appreciation of the enormous task that this represents. Energy is a key sector recognised in all countries of the region and governments have created full departments and ministries responsible for energy affairs. From about ten years ago, many governments have formulated national policies and master plans, highlighting the problems of energy access. These documents propose ameliorative strategies that often balance measures for increasing energy access with the protection of the environment. Here are some statements:

“The following are the objectives of the energy policy:

- a) to ensure accelerated economic development;*
- b) to ensure accelerated economic development;*
- c) to promote small-medium scale enterprises*
- d) to ensure environmentally friendly energy development, and*
- e) to ensure efficient utilisation of energy resources.”*

Zimbabwe

“The Energy Policy is aimed at promoting optimum supply and utilisation of energy, especially indigenous forms, to facilitate socio-economic development of the country and maintenance of a safe and healthy environment”

National Energy Policy, (1994) Zambia

“Social Equity: All households and community services should have access to adequate and affordable energy services.”

Energy Policy (1996), Botswana

“Government will promote access to affordable energy services for disadvantaged household, small businesses, small farms and community services.”

White Paper on the Energy Policy (1998), South Africa

The excerpts were chosen to make the point that current policies do not *sufficiently* focus on the plight of rural communities with respect to energy. The problem is far too urgent to be embedded in overall national goals for increasing energy access, or promoting rural development. Policies need to identify measures that are specific to the rural areas or else the special needs of the rural areas will be lost in statistical averaging. For instance, over a ten-year period, household access to electricity in

Zambia grew from 8% to 20%; but, in rural areas, over the same period, the access rate remained almost stagnant at 2%, while in urban areas it averaged 35%. In the capital city, the figure was closer to 50%.

4. Traditional energy

Given the scale of the problem, it will be a long time before the traditional energy forms of woodfuel and animal dung are substituted with cleaner, more efficient – perhaps even less costly - commercial types. Therefore, policies need to address the management of traditional fuel sources for protection of the environment; the policies also need to promote efficiency measures aimed at reducing energy demand and therefore easing the toil of women. Again, policies should isolate rural areas for special attention, recognising that, not only do most people live in rural areas, but also that all the ills associated with extreme poverty are accentuated in these communities.

Traditional energy forms do not easily lend themselves to institutionalisation and streamlining. For instance, policies related to the use of woodfuel are usually distributed among government departments dealing with the environment, forestry, agriculture, energy, tourism and, perhaps, community development. Governments should seek to harmonise policies and implementation strategies in all these departments, especially as there may be significant differences of emphasis. Some, like the departments of energy and community development, may stress security of energy supplies; others, like the departments of the environment and tourism, may be more concerned about conservation of forests and woodlands.

5. Rural Electrification

However progressive the policies on traditional energy supplies may be, it is ultimately the availability and access to electricity that will bring real change to the rural areas - change that goes beyond mere amelioration. Recognition of this fact is the starting point for an aggressive rural electrification programme. Policies should consider all available policy and institutional options for bringing electricity to the rural areas, based on natural resource endowments and the cost of supply.

The challenge of rural electrification in most countries of the region is framed by the following characteristics:

- Wide population dispersion
- High levels of poverty
- Underdeveloped electricity supply networks
- Low access to energy technology

Bringing electricity to these communities will inevitably require two broad technical approaches: isolated systems based on:

- mini and micro hydropower;
- photovoltaic systems;
- Wind; or
- Biomass

and extension of the existing grid. Isolated systems are also commonly based on diesel generators, but the cost of running these is extremely high, continuity of fuel supply can be problematic and carbon monoxide emissions pollute the environment. Because of the high costs, governments and utilities tend to get locked into unrealistically low tariffs that bear no relation to the actual cost of supply. Therefore,

diesel generators should be a last resort, and the policy should be to substitute existing diesel engines with other sources.

It is clearly essential that policy makers have adequate information on the potential contribution and suitability of each of the options in the various locations. Consideration should also be given to the feasibility of integrating these systems at some future date to the national grid.

5.1 Management and Finance

Internationally, the era of private participation in energy markets is relatively recent, with the notable exception of the USA. Therefore the responsibility for implementing rural electrification generally falls on state-owned utilities operating in a vertically integrated format. But a realisation has grown that governments alone cannot provide all the money that the sector needs in order to guarantee security of supply and to expand the system for increased access. Sector reforms are also motivated by a desire to stimulate increased operational efficiencies that translate to enhanced quality of service to the consumer. Thus, in the last few years a number of utilities have been unbundled and different kinds of partnerships have been forged between states and external investors, some of whom are themselves traditional, state-owned utilities like ESKOM of South Africa and EDF of France. Restructuring of this kind involves laying the ground rules, through legislation, for all the players in the market and for the operation of the national network. It also involves the creation of independent regulatory agencies whose mandate is to ensure that the rules are obeyed, a fair trading environment is maintained and that monopolistic tendencies are checked.

Such restructuring separates the rural electrification programme from the ordinary commercial operations of utilities. Thus, the restructuring brings into sharp relief the need for specific policies, institutional framework and a clear, sustainable financing mechanism. The reforms also provide possibilities and opportunities for private sector participation, with the prospect of additional resources for the programme. For electricity to be accessible to rural communities, the tariff needs to be relatively low, which makes rural electrification unattractive to business people. Added to which is the low volume of consumption. Therefore a purely commercial business environment does not exist, and the success of the programme will require imaginative intervention of the government, which can afford to take a much longer view of viability than free markets. Rural electrification will require the kind of investment that only governments can make because many of the dividends are purely social, but have an impact on the wider, macroeconomic performance of the country. Better education, better communications, higher availability of health services are benefits that an investor cannot quantify and demonstrate on a balance sheet, but they are (should be) the core preoccupations of governments.

5.2 Rural Electrification Agency, Fund

It is conceivable that a government department manages a rural electrification programme. In fact departments have done so for many years in conjunction with national utilities. However, on the whole this approach has yielded dismal results. Governments alone simply cannot find the money to maintain a reasonable rate of progress, and politicians are more than inclined to sway the choice of projects on grounds that have more to do with the advancement of their careers than a rational view of national priorities. For this reason, those among the collaborating partners who would contribute to the rural electrification programme, especially as it addresses

extreme poverty, tend to shy away. As much as possible, therefore, the policies need to distance the rural electrification programme from the political arena.

The establishment of a Rural Electrification agency with an associated Fund is the route that appears to succeed best. A variation on this is a Rural Energy agency that brings together all aspects of rural energy supply. Whether it is one or the other, the important thing is to back the agency with a robust law that shields it from political schemes, formalises the transparency of its procedures and entrenches an inclusive approach. Inclusiveness refers to the direct participation of the target communities in the planning, execution and management of the projects. This is especially important for the disbursements from the Fund. Autonomy should also be enshrined in the law through appointment procedures and a clear demarcation of roles between the responsible minister and the agency. The funding mechanism should further enhance the autonomy of the agency by minimising the direct role of ministers and government officials.

5.3 Role of private sector

While the responsibility for rural electrification is that of government, the policy formulation process should vigorously explore ways in which the private sector can support the efforts. The structure of the industry and the regulatory arrangements should be friendly to private investment, and should be balanced with the interests of the consumer. An important purpose of the Fund is to formulate a package of measures that mitigates the consumer tariff, while allowing a reasonable rate of return to project promoters. The regulator should also consider ways of stimulating rural investment through a “light handed” approach to licensing and standards, without compromising safety.

6. Conclusion

Energy is indispensable to any development endeavour, and rural areas are no exception. Currently, policies for increasing access to energy in rural areas are embedded in overall national policy frameworks. Furthermore, governments have tried to implement the energy access programmes directly, but have largely been unsuccessful due to political interference and the failure to attract the support of collaborating partners. This approach has also failed to marshal the resources that could be contributed by the participation of the private sector.

Policies and legal frameworks dedicated to rural energy supplies are essential for accelerated programmes. The policies should not ignore traditional energy types, especially woodfuel, which are likely to continue being used for the foreseeable future. Nevertheless, rural electrification deserves special attention because it alone holds the key to the necessary dramatic transformation of life in rural communities. The recent moves in many countries towards electricity industry restructuring will benefit rural electrification by sharpening the focus on a programme that has previously been managed by national utilities without clear direction. The creation of specialised agencies needs the force of the law to entrench autonomy, demarcate responsibilities, and thereby build confidence among collaborating partners. The regulatory environment should aim to stimulate and support developments by being mindful of the special position of rural areas.

THE NEED FOR A NATIONAL RURAL ENERGY POLICY AND LEGAL AND REGULATORY FRAMEWORK

Prof. Jorry Mwenechanya

Chairman, Energy Regulation Board, Zambia

*Regional Conference on Enabling Environment for
Private Participation in Rural Energy Service
Delivery and Financing in the SADC Countries,
Windhoek, Namibia 15-16 April 2004*



INTRODUCTION

- ✦ Majority of people live in rural areas – up to 95% in some countries;
- ✦ Development indicators heavily skewed against rural areas: hunger, illiteracy, etc.
- ✦ Energy central to any attempts to confront problems of rural communities.



Policy Imperatives

- ★ Policy gives framework for systematic action;
- ★ Policy necessary if status quo is inadequate, unsatisfactory or simply archaic
- ★ Economic growth that does not touch the lives of the majority of people is meaningless.



Policy Imperatives (2)

- ✱ ~85% of energy used in rural areas is for cooking and warmth – very little used for productive work.
- ✱ Anywhere between 70% and 90% of the energy is wood fuel.
- ✱ Serious environmental and health concerns
- ✱ Also gender because of high burden on women



Policy Imperatives (2)

- ★ Very little commercial energy in use mainly kerosene for lighting and some electricity for powering radios etc.
- ★ Low access to electricity is major concern because of its potential to transform rural communities.



Current Policies

- ✱ Energy recognised in the region as key sector.
- ✱ Low access to electricity also recognised as a big challenge

Typical statements from policies/plans”



Current Policies

The following are typical statements from policies and plans:

“The following are the objectives of the energy policy:

- a) *to ensure accelerated economic development;*
- b) *to ensure accelerated economic development;*
- c) *to promote small-medium scale enterprises*
- d) *to ensure environmentally friendly energy development, and*
- e) *to ensure efficient utilisation of energy resources.” - Zimbabwe*



Current Policies (2)

- ★ *“The Energy Policy is aimed at promoting optimum supply and utilisation of energy, especially indigenous forms, to facilitate socio-economic development of the country and maintenance of a safe and healthy environment” Zambia*



Current Policies (3)

“Social Equity: All households and community services should have access to adequate and affordable energy services.” Botswana

“Government will promote access to affordable energy services for disadvantaged household, small businesses, small farms and community services.” South Africa



Current Policies (4)

- ✱ RE services too important to be embedded in general goals
- ✱ Zambia: over 15yrs access grew from 8% to 20%, but
- ✱ Rural remained at 2%, while urban grew to 35% on average, with Lusaka at nearly 50%.



Traditional Energy

- ★ Wood fuel and animal dung will not go away any time soon;
- ★ Policies must aim to balance security of energy supplies and protection of environment.
- ★ Harmonisation of different interests important: environment, forestry, agriculture, energy, tourism and, perhaps, community development



Rural Electrification (1)

- ✱ availability and access to electricity in rural areas will bring real change, not just amelioration;
- ✱ Policies should consider all options for bringing electricity to rural areas, based on natural resource endowments and the cost of production and supply.



Rural Electrification

Challenge of rural electrification framed by :

- ✱ Wide population dispersion
- ✱ High levels of poverty
- ✱ Underdeveloped electricity supply networks
- ✱ Low access to energy technology



Rural Electrification (3)

- ✱ Isolated systems: mini and micro hydropower; photovoltaic systems; Wind or Biomass
- ✱ Extension of the grid
- ✱ Diesel generators: policy should aim to phase these out on the basis of high cost and environmental degradation.



RE management

- ✦ Previously: electricity industry managed by govts and v.i utilities
- ✦ From experience: this format is inefficient, and cannot invest sufficiently to guarantee sec. and quality of supply
- ✦ Thus, unbundling, and partnerships between states and investors.



RE management (2)

- ✦ Power sector restructuring separates RE from commercial utilities;

Restructuring brings to the fore need for:

- ✦ specific policies,
- ✦ dedicated institutional framework and
- ✦ clear, sustainable financing mechanism



RE management (3)

- ✦ Restructuring opens RE to private sector participation and possibilities for additional resources.
- ✦ Government participation essential for strategic interventions in legislation, regulatory frameworks and policies on subsidies



RE agency, fund

- ✱ RE programme needs to attract external funds.
- ✱ Management of prog by govt scares away collaborating partners
- ✱ Good idea to distance RE from govt
- ✱ Thus create autonomous Agency and associated Fund



Role of private sector

- ✱ Policy should explore ways of including private sector
- ✱ Industry structure and regulatory framework should be friendly to private sector;
- ✱ Regulator should approach RE with a “light hand”



Conclusion

- ✱ Policies and legal frameworks dedicated to rural energy supplies are essential for accelerated programmes.
- ✱ policies should not ignore continued use of traditional energy types
- ✱ rural electrification deserves special attention for real change to take place;
- ✱ Power sector restructuring sharpens focus on RE challenge
- ✱ Specialised agencies needed to execute RE effectively.



THANK YOU

