



www.sparknet.info

Knowledge network on sustainable household energy
in Southern and Eastern Africa

Scenario Analysis

Gender Issues

Joy Clancy, University of Twente
Working draft

An initiative of



Intermediate Technology Development Group – UK, East Africa (Kenya)
and Southern Africa (Zimbabwe/Mozambique)



Eco Ltd – UK



Eco Consulting Group – Germany



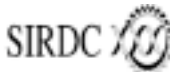
Energy and Environmental Concerns for Zambia – Zambia



Makerere University, Women and Gender Studies Department – Uganda



Rural Area Power Solutions (Pty) Ltd – South Africa



Scientific and Industrial Research and Development Centre, Energy
Technology Institute – Zimbabwe



TaTEDO, Tanzania Traditional Energy Development and Environment
Organisation – Tanzania



Universiteit Twente

University of Twente, Technology and Development Group – Netherlands



University of Liverpool, Department of Public Health – UK

In association with



HEDON Household Energy Network – www.hedon.info

Supported by



The European Commission, International Co-operation (INCO), FP5

SPARKNET SCENARIOS FOR THE FUTURE GENDER ISSUES Draft

1. Gender-Energy-Poverty Linkages

There is an assumed link at the micro-level between increasing energy consumption and increases in well-being. However, it is not clear which comes first – the richer you become the more you spend on using commercial energy or by using more energy you become richer. Both conditions could operate simultaneously. So what is the role of energy services in moving people out of poverty? Does increased energy use have negative social effects such as increased unemployment?

The energy-poverty nexus has distinct gender characteristics. Within households, where there are adult men and women, the gendered division of labour generally allocates to women the responsibility for household energy provision related to their spheres of influence in the household, in particular activities centred round the kitchen.

Women's access to decision-making within the household and community is restricted, limiting their ability to influence processes and resource allocation on many issues including energy. Women and men have not only different needs for energy but also they have different perceptions about the benefits of energy. The impact on poverty of improved energy services is determined by the choice of end-use to which energy is put. Therefore, key questions around household energy become: who chooses which energy carrier?; how is it used?; and who benefits from this use?

Of the approximately 1.3 billion people living in poverty, it is estimated that 70% are women, many of whom live in female-headed households in rural areas. Since women generally have less access to resources and decision-making than men, many poor female-headed households can be expected to be living in extreme energy poverty. It is not only the supply of energy which will be constrained, but also the important services for the household which will be affected, such as clean water provision. Their lack of resources makes them vulnerable to changes outside of their control e.g. drought.

Men and women do not necessarily become poor in the same ways, for example, a man might lose his job, and a woman, who has always depended on her husband for financial support, may become a widow, forcing her to start looking for a paying job later in her life, which she might be ill equipped to do so. Men and women adopt different strategies for addressing their poverty, men are more easily able to migrate while women stay put managing the household and creating informal sector business they can run from home. Women need good communication systems to keep in touch with their men folk, for example to ensure remittances are delivered in a timely fashion. Therefore, energy strategies that are intended to assist people to move out of poverty must take these gender aspects into account.

Since household energy is primarily women's responsibility, they will be the direct beneficiaries in any improvements in availability or diversification in choice of energy carrier. Although discussions on household energy tend to focus on women, men can be indirect beneficiaries of access to modern energy forms (for example, faster prepared meals). Men can also play an important role because they are very influential in

determining the outcomes of any interventions and where and by whom the benefits to the household will be felt.

Energy can be seen as contributing to women's needs which have three aspects: practical (keeping the household running and families daily survival), productive (income generation) and strategic (social position, including control over their lives, particularly in relation to men).

2. Key issues in gender and energy

Increasing access to energy can bring the following direct benefits to women:

- Reduction in women's time for fuel, water and staple food preparation
- Reduction in drudgery
Is improved access counterproductive? For example, what are the implications of electric light? Does it increase women's hours of working?
- Improvements in women's health from the biomass fuel chain.
Although there is considerable overlap with the health issues paper, health issues related to biomass are more than the effects of smoke¹.
- Women's empowerment – does energy contribute to the transformation in the control women exercise over their own lives?

In what way do men benefit from access to improved energy resources?

Table 1 Possibilities for improving the position of women through energy

Energy Form	Women's needs		
	Practical	Productive	Strategic
Electricity	- pumping water: reducing need to haul and carry - mills for grinding - lighting improves working conditions at home	- increase possibility of activities during evening hours - provide refrigeration for food production and sale - power for specialised enterprises such as hairdressing and internet cafes	- make streets safer: allowing participation in other activities (e.g. evening classes and women's group meetings) - open horizons through radio, TV and internet
Improved biomass (supply and conversion technology)	- improved health through better stoves - less time and effort in gathering and carrying firewood	- more time for productive activities - lower cost of process heat for income generating activities	- control of natural forests in community forestry management frameworks

¹ Wickramasinghe, A. 'Gender and health issues in the biomass energy cycle: impediments to sustainable development', in *Energy for Sustainable Development*, Vol. VII, No. 3, pp 51-61, September, 2003. <www.energia.org>

Mechanical	- milling and grinding - transport and portering of water and crops	- increases variety of enterprises	- transport: allowing access to commercial and social/political opportunities
------------	--	------------------------------------	---

3. Energy sector issues related to gender arising from country studies

1. Transition to cleaner, modern fuels

There is a continued dependency by low income households on biomass. There has been little transition by low-income households to modern fuels. This has implications for women's time, health and empowerment. There are a number of *barriers* identified for households switching to more efficient or less polluting energy sources: cost (of both fuel and appliance), convenience, availability (of both fuel and appliance), and negative perceptions of a fuel. **Cost** is significant for LPG, electricity and kerosene for particular end applications. The deposit required on large cylinders of LPG and the connection fees for electricity are problematic for increased access. While many low income households perceive electricity as too expensive to use for providing large quantities of thermal heat, for example, space heating, cooking and hot water for personal hygiene, its use is highly appreciated for applications which use small quantities of electricity (for example, lighting) or for higher power outputs over short periods when time saving can be important (for example, boiling water for drinks). The manner of payment for electricity and LPG does not always match the cash flow in low-income households. Women are able to buy kerosene in small quantities, to match their cash flows, at reasonable prices.

Households rapidly switch to electric lighting (from candles and kerosene) and refrigeration (from LPG and kerosene). However, households do not seem to make a similar transition to using labour saving devices which require electricity, the trade off is to continue to use the 'unpaid' labour (in other words their human energy) of women and children. If women's economic status improved then most likely the household's attitude would change towards the acquisition of labour saving equipment. Alternatively with access to cash income, women would be empowered to make their own choices about energy services. Low-income households usually buy second-hand electrical powered household equipment, which is most likely not to be the most energy efficient leading to low-income households paying more for their energy than those who can afford more modern, energy efficient equipment. Low-income households (particularly women headed) are placed at a disadvantage because they are denied access to hire purchase since they usually do not meet the qualification criteria (steady income from regular employment) or other forms of credit which require property as security (particularly problematic for women).

Convenience is strongly linked to time saving. Wood and coal are considered inconvenient for cooking (which can be seen from the high percentage of households using kerosene) but are acceptable for boiling large quantities of water (perhaps because cooking needs to be supervised whereas water can be left unattended to boil); lead acid batteries are inconvenient because of the need for frequent re-charging requiring carrying to the recharging centre (indeed lack of transport can be a barrier); paraffin stoves cannot accommodate the large quantities of water for washing – consecutive batches have to be boiled.

Availability is an issue for wood, LPG, coal and kerosene. Wood is scarce in some places which has lead to commercialisation. Availability of LPG is a problem of access. Women find the cylinders too heavy to carry and without their own means of transport, they need

male assistance for portering. There are poor distribution systems. Coal (in those countries with a supply) is restricted to the coalfields. It can be seen that the general provision of affordable alternatives, such as kerosene and candles for lighting, enable other energy conservation strategies or better quality service to be adopted. Appliance availability is also a problem. In rural areas, there are problems with access to labour saving equipment.

There are negative perceptions about different fuels. These range from health concerns related to kerosene use (effects of fumes on some people particularly asthmatics as well as irritating the eyes) to safety issues related to LPG (i.e. danger of asphyxiation or explosion), candles (fire hazards in low income rural households which are constructed from flammable material) and kerosene (the popular low cost wick stoves are associated with fires and burns) to cleanliness (coal is dirty and smoky) to convenience (coal takes time to burn) and to perceptions of cost (the glass lamp shades in kerosene lamps break easily, hence kerosene lighting is considered costly to run; short life time of dry cell batteries; electricity for income generation).

2. Liberalisation of energy markets

Liberalisation of the commercial energy supplies is taking place throughout the region. This process includes both privatisation and commercialisation. The former involves the sale of state energy companies, particularly the electricity utilities, to the private sector, as well as the opening up of the market for the private sector to provide other energy services. Commercialisation involves the removal of direct subsidies on fuels and appliances, and a shift towards market-based solutions in the provision of energy services.

The consequences of these policy shifts for household energy appear to be an increase in price usually without any improvement in access, for example, LPG distribution is hindered by the poor state of the roads. Any price rises increase women's burden of providing for their families.

Many of these policy are very new in the region and are in varying stages of implementation and so only the immediate effects, which appear to be limited to increased prices, are visible. This seems a good area for scenario building. How will the private sector or state utilities using more market based approaches respond to low-income households? Will life-line tariffs disappear? Modern marketing strategies might be more ready to take gender differences into account when analysing the potential clients and would disaggregate both between and within households. Companies could provide credit schemes not based around property as surety which would benefit women.

Liberalisation also allows new players to enter the market. Are women as well as men able to set up small ESCOs?

Summary of gender issues in energy and policy options for improving gender relations at the regional level

<p>Tanzania</p>	<p>The fuel for domestic use will remain to be a role of women in the communities operating at subsistence level. It is expected that men and women in urban households will continue to share burden of paying basic household needs. Woodfuel will continue to be used for productive purposes in SMEs like restaurants, cafes, meat roasting places, local brewing, street food vending, baking, pottery, brick burning etc</p>	<p>Access to better energy services, will reduce the burden on women and children for collecting firewood and cutting of trees for charcoal making in rural areas. The saved time would allow women to engage in productive and income earning opportunities. Such opportunities will significantly contribute to the ongoing efforts to reduce poverty.</p>	<p>Both men and women will be affected in several ways. Women and children will continue to have the burden of collecting woodfuels from distant areas. Women and children will mostly carry the burden as a result of poor energy services.</p>
<p>Mozambique</p>	<p>Women both urban and rural dwellers will have little choice over the domestic fuels Men and women will still have different levels of access to different types of energy. Men will dominate commercial fuelwood production and marketing while women will be active in the collection of fuelwood. Women and children, will have to spend more time in search of fuelwood as the forests recede Women will be responsible for the daily chores of water collection, fuelwood collection and preparing</p>	<p>A shift in the mindset in addressing the energy crisis those women face. There will be economic empowerment for all and this should result in equal access to energy. More women being involved in the commercial production and marketing of energy products and services. A reduction in the vulnerability of women and children.</p>	<p>Women both urban and rural dwellers will continue to be responsible for the daily household chores among them water and Fuelwood collection. Different levels of access to energy services will be clearer as men would venture into the commercial production and marketing of charcoal while women will be on the non – commercial use of the energy resources. Over reliance on traditional energy sources will see women travelling over longer distances and time looking for fuelwood.</p>

	meals. An increase in the vulnerability of women and children. More women will be involved in gender policy formulation.		Increase the vulnerability of women and children Lower women illiteracy rates, poor health.
--	--	--	--

<p style="text-align: center;">South Africa</p>	<p>Woodfuel is still widely used which means that there are women and children who still carry the drudgery of collecting wood, who are at health risk of getting diseases associated with indoor pollution.</p> <p>Not all energy projects initiated by government and other organisations take into account gender needs and goals.</p> <p>There has been an increase in women participation in development projects especially energy projects.</p> <p>There are still female headed households that are living in extreme poverty who have no or very little access to household fuels.</p>	<p>There has been an increase in h/h that rely on woodfuel, dung, crop waste and etc which has a negative impact on women and children who spend most of their time collecting woodfuel which exposes them to health hazards.</p> <p>Shortage and lack of development resources has resulted in gender issues being sidelined and seen as a luxury more than a necessity.</p>	<p>The success of the grid and off-grid electrification programme has had a positive impact on women and children as they have better access to lighting for evening relaxation, working, study. are less exposed to indoor air pollution, which does not put them at risk of diseases associated with indoor air pollution.</p> <p>Women have more time to spend with their families as they need not to spend many hours collecting woodfuel, but have lost social interaction with their peer groups.</p> <p>There has been an increase in government projects especially energy projects that take into account gender needs and goals.</p>
<p style="text-align: center;">Zambia</p>	<p>Women and children spend much time in collecting firewood and preparing meals. Higher risk of women and children of catching ALRI due to exposure to IAP for longer periods. Burden on women of</p>	<p>Women and children will have more time to concentrate on other income generating activities because of reduced time to collect firewood and for meal preparation. Fewer IAP risks and reduced</p>	<p>Women and children spend much time in collecting firewood and preparing meals. Higher risk of women and children of catching ALRI due to exposure to IAP for longer periods. Burden on women of</p>

	looking after the sick caused by ALRI which increases poverty	burden of caring for the sick. Empowerment of women through income generation and by starting up micro-enterprises.	looking after the sick caused by ALRI which increases poverty
--	---	---	---

<p style="text-align: center;">Kenya</p>	<ul style="list-style-type: none"> • The drudgery on women and children as a result of poor access of fuel is increasing • Energy to address all household energy related services is lacking • Women and continue to bear the brunt of biomass use • Empowerment for decision making on fuel choice and end use is limited, especially to women and poor men. 	<ul style="list-style-type: none"> • Scenario will address increased access and uptake of modern energy • Household energy needs met appropriately • Reduced burden and drudgery, especially on women. • Increased productive end-use activities due to improved access, leading to improved income and decision making for women 	<ul style="list-style-type: none"> • Reduce access and uptake of modern energy • Women and children will continue to bear the brunt of reduced access to appropriate energy services • Poverty expected to increase at household level due to lack of energy for productive end use. • Further marginalisation of women and children resulting from use of inferior fuels.
<p style="text-align: center;">Zimbabwe</p>	<p>Women and children spend much time in collecting firewood and preparing meals. Higher risk of women and children of catching ALRI due to exposure to IAP for longer periods. Burden on women of looking after the sick caused by ALRI which increases poverty</p>	<p>Women and children will have more time to concentrate on other income generating activities because of reduced time to collect firewood and for meal preparation. Fewer IAP risks and reduced burden of caring for the sick. Empowerment of women through income generation and by starting up micro-enterprises.</p>	<p>Women and children spend much time in collecting firewood and preparing meals. Higher risk of women and children of catching ALRI due to exposure to IAP for longer periods. Burden on women of looking after the sick caused by ALRI which increases poverty</p>
<p style="text-align: center;">Gender Issues - policy options on gender</p> <ul style="list-style-type: none"> • Gender mainstreaming • Recognition of women’s contribution • Capacity development in gender and energy • Energy access 	<p style="text-align: center;">Business as usual</p>	<p style="text-align: center;">Best case economy and cooperation</p>	<p style="text-align: center;">Worst case economy and cooperation</p>

<ul style="list-style-type: none"> • Productive end-use 			
<p>Tanzania</p>	<ul style="list-style-type: none"> ◆ Household energy interventions particularly in rural areas must be planned with gender consciousness based on needs identified through multi-disciplinary, multi-sectoral and participatory approaches. 	<ul style="list-style-type: none"> ◆ More efforts are needed at all levels for gender mainstreaming in the energy sector to facilitate greater participation and representation of men and women in energy decision making in particular those related to household energy. 	<ul style="list-style-type: none"> ◆ Developing village based energy systems through adoption of renewable energy technologies and ensuring that both men and women are strongly involved in the design, planning and implementing of initiatives
<p>Mozambique</p>	<ul style="list-style-type: none"> ◆ Mainstreaming gender into development process. ◆ Economically empower the rural and urban poor in particular the women. ◆ Promote decentralised small-scale technologies, in particular those locally made and operate using available fuels. These can then be a source of jobs, employment and enterprise creation for both rural and urban poor. 	<ul style="list-style-type: none"> ◆ Financing mechanisms for energy services ◆ Gender mainstreaming 	<ul style="list-style-type: none"> ◆ Diversification of the economy and employment creation ◆ Mainstreaming gender into development projects ◆ Promotion of education

<p style="text-align: center;">Zambia</p>	<ul style="list-style-type: none"> ◆ Empowerment of women by availing wider choices of energy forms that do not take too much of their time. Where there is access to electricity, encourage starting up of micro-enterprises ◆ Look at the barriers of the girl child in furthering education for betterment of her future 	<ul style="list-style-type: none"> ◆ Assistance of women in availing starting capital for income generating projects. ◆ Policies to assist and encourage all that benefit from the RE programme to put energy to improve livelihoods through starting up of micro-enterprises. 	<ul style="list-style-type: none"> ◆ Empowerment of women by availing wider choices of energy forms that do not take too much of their time. Where there is access to electricity, encourage starting up of micro-enterprises ◆ Look at the barriers of the girl child in furthering education for betterment of her future ◆ Looking at tariff structures and classes to enable the disadvantaged to afford the different energy forms
<p style="text-align: center;">Kenya</p>	<ul style="list-style-type: none"> • There is need for recognition of contribution of women in national energy balance • Engendering energy policy, which should address capacity development to ensure effective participation in decision making • Allocation of resources to gender and energy issues • Availability and improved access to energy services 	<ul style="list-style-type: none"> • There will also be need for continued capacity development • Implementation of engendered policies to ensure access to modern energy services • Policies should support participation in appropriate energy technology design and development, dissemination and in productive activities. 	<ul style="list-style-type: none"> • There is need for increased recognition of contribution of women in national energy balance • Women's participation in decision making should be stepped up • Increased efficiency in biomass conversion and improved cooking and kitchen practices

<p style="text-align: center;">Zimbabwe</p>	<ul style="list-style-type: none"> • Empowerment of women by availing wider choices of energy forms that do not take too much of their time. Where there is access to electricity, encourage starting up of micro-enterprises • Look at the barriers of the girl child in furthering education for betterment of her future 	<ul style="list-style-type: none"> • Assistance of women in availing starting capital for income generating projects. • Policies to assist and encourage all that benefit from the RE programme to put energy to improve livelihoods through starting up of micro-enterprises. 	<ul style="list-style-type: none"> • Empowerment of women by availing wider choices of energy forms that do not take too much of their time. Where there is access to electricity, encourage starting up of micro-enterprises • Look at the barriers of the girl child in furthering education for betterment of her future • Looking at tariff structures and classes to enable the disadvantaged to afford the different energy forms
--	---	--	--