

### EQUITY IN ACCESS TO ENERGY

# Assessment of Gender Mainstreaming in Rural Electrification Programs in Tanzania

*From the African Community of Practice on Management for Development Results at the African Capacity Building Foundation*



Case Study  
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## SYNOPSIS

Development programs and policies that address the gender–energy nexus are believed to generate better outcomes in sustainability of energy services and human development opportunities open to women and men. This study analyzes how commitments to equity and gender mainstreaming are put into practice in rural energy programs in Tanzania to ease bottlenecks and elicit success factors, and formulates recommendations for improving gendered access to energy in rural areas.

**Key findings.** Although policy documents show important government implications in gender issues, most implementers were unaware of gender issues or how to mainstream responses to them into rural electrification plans and processes. Moreover, the patriarchal practices that marginalize rural women are still entrenched in rural Tanzania to the extent that rural electrification may end up lighting rural Tanzania but may not contribute to the fundamental changes required in altering complex and multiple energy challenges that women face. Also, the high costs of energy and limited participation of women in energy program design have not been addressed, and will remain major issues in rural electrification.

**Main lessons.** Resolving energy challenges facing rural women in Tanzania requires more than rural electrification. To have an impact, gender-specific energy needs have to be identified and mainstreamed in program design and implementation.

**Key recommendations.** Gender mainstreaming in energy projects requires capacity building of practitioners and policymakers. Specific training and support (for example through guides on developing and implementing gendered energy programs) would increase their knowledge and capacities to mainstream gender issues. Relatedly, in designing and implementing energy programs, governments should consider the types of energy required by women, affordable costs, and adequate distribution systems aligned with women’s needs and situations. Finally, participation of all stakeholders, especially women, is central to the effectiveness and success of rural energy programs.

## Introduction

The world faces a sharp energy divide between rich and poor countries, with more than 95 percent of the world’s population without access to electricity and clean cooking facilities living in Sub-Saharan Africa and developing Asia. The wealthiest benefit from the bulk of energy resources: 84 percent of the estimated 1.3 billion people that do not have electricity in their homes live in rural areas (IEA

2011). For those with access to electricity in rural areas, lighting and television account for at least 80 percent of electricity consumption, while only 2 percent of the rural population use electricity for cooking (WHO and UNDP 2009). Thus 2.7 billion people still rely on open fires and traditional use of biomass for cooking and almost half the world’s population depends on solid fuels such as wood, dung, crop waste, coal, and charcoal (IEA 2011). The energy divide is also gendered, with women in most

developing countries experiencing energy poverty differently and more severely than men.

In developing countries such as those in Africa, women are often associated with household activities and are responsible for the bulk of household and community energy provision. Without access to modern energy services, women and girls spend most of their days performing basic subsistence tasks, including time-consuming and physically draining tasks of collecting biomass fuels, constraining them from accessing decent wage employment, educational opportunities, and livelihood-enhancing options, and limiting their options for social and political interaction outside the household (Danielsen 2012).

Programs and policies that address the gender-energy nexus have a greater chance of yielding better results and outcomes for sustainable energy services and for human development opportunities available to women and men (WHO and UNDP 2009, Ekouevi and Tuntivate, 2011). For many years, energy projects were treated as gender neutral, based on the assumption that energy bottlenecks and solutions affect men and women in similar ways.

Historically, the gender-energy approach of developing economies was justified on the basis that women use energy differently from men and that providing energy to women would improve their livelihoods. Clancy (1999) argued that energy is a basic good, implying that women are entitled to it as much as to health and education.

As the world globalizes and the role of government vis-à-vis the private sector shifts, there is increased emphasis on the responsibility of the private sector to meet energy demand. The focus on women and energy has been progressive in addressing the challenges of sustainable development. Clancy and Skutsch (2002) argue that with energy problems seen as having a gender dimension, solutions have generally been crafted against this background, so that the general framework is focused on advocating and implementing a women-targeted approach, both at the end-user and decision-making levels.

## Objectives

The main objective of this case study was to establish how commitments to equity and gender mainstreaming are put into practice in rural electrification programs in Tanzania. The study also aimed to explore the extent to which rural electrification resolves the gender-energy challenge among rural women in that country. The study is expected to benefit policymakers and practitioners across the continent to ensure access to energy for men and women, especially in rural settings.

## Methodology

The study was developed through desk reviews of recent reports and research findings on rural electrification in Tanzania and on the linkage between gender and energy. Interviews with 220 key informants and stakeholders (100 rural women, 80 men, 30 village leaders, and 10 policymakers) were conducted in two rural regions of Tanzania, Singida, and Shinyanga.

## The case study

Tanzania is in East Africa with a population of over 45 million and an annual growth rate of 2.7 percent in the last 10 years (World 2014). Women constitute 51 percent of the population (URT 2013). The main development challenge is widespread and persistent poverty, with 48 percent of the population living below the poverty line. The economy is heavily dependent on agriculture, which accounts for 50 percent of GDP, provides about 85 percent of exports, and employs 90 percent of the work force. Tanzania faces several socioeconomic and political challenges, such as poverty, gender inequality, promotion of democracy, and human rights observance. It is one of the 50 least developed countries, with an annual per capita income of some \$250 (World Bank 2014).

## Access to energy

According to the 2015 national policy, the energy resource base in Tanzania includes oil and gas, coal, hydro, wind, geothermal, biomass, and uranium. The country has natural gas reserves of about 53.28 trillion cubic feet, equivalent to 9.2 billion barrels of oil. Tanzania has sizable coal reserves of about 1.9 billion tons, 25 percent proven, and potentially 5 billion tons. The small amount exploited is used for industrial applications and not for electricity generation.

Of the population, 24 percent is connected to the power grid, but only about 11 percent of the rural population is connected to electricity services. The government plans to increase connectivity to 50 percent by 2025 and to at least 75 percent by 2033<sup>1</sup>. According to the Tanzania Electric Supply Company (TANESCO 2014), the country's installed capacity recently stood at 1,500 megawatts (MW), against a peak power demand of 900 MW. The full capacity is rarely available though due to power plant outages and drought. Demand for electricity has been growing at 10–15 percent a year.

## Institutional setup and actors in energy

The following actors are involved in the electricity sector:

- The Ministry of Energy and Minerals (MEM). The government, through MEM, formulates energy policy. The Electricity Act 2008 focuses on restructuring the electricity supply industry, attracting private and other participation and ending TANESCO's monopoly. The Act provides separate licenses for generation, transmission, and distribution.
- The Energy and Water Utility Regulatory Authority is responsible for technical and

economic regulation of electricity, petroleum, natural gas, and water.

- The Rural Energy Agency (REA) is responsible for boosting modern energy services in rural areas.

## Efforts to address gender-related energy challenges

The government has tried to mainstream gender in the design and implementation of energy projects and strategies. It aims to increase power production sevenfold, from 1,400 MW to 10,000 MW by 2025. TANESCO will be split into two arms, one handling generation and the other transmission and distribution. Under the Tanzania Electricity Supply Industry Reform Strategy and Roadmap 2014–2025, the financing of power projects is to be left to the private sector, to encourage investors to generate electricity from coal, gas, hydro, solar, wind, and thermal sources in an energy mix that delivers reliable and cheap power (Muhongo 2013; TANESCO 2016).

The national energy policy (2003 and 2015) captures the centrality of gender in all energy programs and projects, as a means of eradicating challenges faced by women due to unreliable energy sources (URT 2003). Further, the MEM Strategic Plan 2011/12–2015/16 stresses the need for "... ensuring adequate supply of energy to increase social and economic welfare". These efforts indicate how the government is committed to making gender an integral part of all energy development strategies.

The government established the REA to coordinate and distribute electricity in rural areas. Its major aim is to improve access to modern energy services in rural areas as a means of improving rural livelihoods and reducing poverty. This is because, according to the energy policy, "Energy consumption in rural areas accounts for about 85 percent of total national energy consumption" (URT 2003:6). Although the

<sup>1</sup> <https://mem.go.tz/wp-content/uploads/2015/02/NATIONAL-ENERGY-POLICY-2015-Feb-2015.pdf> (accessed March 12, 2016).

REA has partnered with the World Bank to mainstream gender in the organizational structure, design, implementation, and monitoring and evaluation of energy projects, it does not explicitly state how and to what extent it considers gender issues in its energy distribution. It appears that the main preoccupation of the agency is to increase the number of people in rural areas who have access to energy. Moreover, the question of whether rural electrification is gender sensitive and can help reduce women's health risks associated with unreliable energy sources remains less researched.

## Findings

### *Health problems and rural electrification*

The study findings indicate that rural women have been facing a myriad of health and life risks from years of exposure to unreliable energy sources. Modern energy services designed for electrifying rural areas are being delivered when they are greatly needed. The question remains whether they can resolve the health and life risks of women. In rural areas, the majority of informants expressed strong personal feelings over health problems they have endured. Walking long distances to find firewood was a curse for many women. Family influences, especially from husbands, affected their daily lives.

### **High costs limit accessibility**

It is still not clear whether rural electrification can reduce the burden of unreliable energy sources for women. The main concern is the cost of electricity and its affordability to the rural poor.

All informants from Singida and Shinyanga felt that even if all rural households were electrified, this would not reduce energy challenges because of the high costs of access to electricity. According to Uisso and Mwiwaha (2005), the poor spend more than 35 percent of their household income on energy, while the rich spend about 14 percent. Although the government has stated that electrifying rural areas is a means to rural modernization and transformation

(MEM 2013), a situational analysis to examine the economic capability of the rural population to pay for energy does not seem to have been undertaken.

Still, the government has cut down costs of energy installation for rural households to enable them to access modern energy services (Muhongo 2013). However, the basis on which this was done is not stated. Thus electrifying rural areas may not be a solution to energy challenges that women encounter.

### **Income challenges in rural electrification**

Many informants were pessimistic on whether rural electrification could resolve the challenges posed by unreliable energy. Their concern was the high costs of electricity for the majority of rural women. Many believed that installing and using electricity for cooking and other domestic activities would require reliable financial resources to meet the costs. This resonates well with the argument that off-grid energy projects in Africa face the challenge of low average income of the targeted consumers (the rural population in this case) (Adomakoh 2012).

Therefore, without addressing income challenges, rural electrification is unlikely to alter the energy-related gender injustices that rural women have endured for so long. Moreover, the costs of distributing electricity to rural areas are enormous (Kassenga 2008; Sosovele 2010), so it would be very difficult for most of the rural population to afford electricity, given their income poverty.

Yet although many respondents cited high energy costs as a barrier to electricity use, the actual costs of, for example, electricity for cooking were beyond their knowledge. Their reasoning was simply based on the observation that if many beneficiaries of electricity do not use it for cooking, it must be expensive. The problem here seems to be lack of information.

A study in South Africa showed that households connected to electricity hardly used it for cooking,

mainly because they considered it expensive (Green and Zwebe 2006). This is not different in Tanzania. Designing ways in which electricity can be made accessible and affordable to more people in rural areas requires efforts by the government and other development stakeholders. Reducing the costs of installation and use may be a desirable short-term strategy but cannot be sustainable because it is very difficult to reduce costs to the satisfaction of many while ensuring sustainability of projects. Rural electrification needs to be carried out alongside economic empowerment of the rural population, especially women, so that with time they can be economically independent and afford electrification. This can be done through improving rural transport and communication infrastructure, promoting economic diversification from agriculture, and ensuring that markets for rural products are readily available. Providing financial services to rural women through their entrepreneurial groups and supporting mobile financial services in rural areas are some ways of empowering women financially, to offset the challenges of energy costs.

### Gender mainstreaming in energy policies and projects in rural areas

Gender mainstreaming was a low priority in the energy sector in the two study regions, despite efforts to provide an enabling international-level framework as well as gender policies at national level.

Gender mainstreaming requires capacity building of staff and incorporation of gender management systems at institutional level to provide guidance to gender-responsive leadership and energy-related decision making. It follows that the success of any energy project depends on how it integrates women's and men's concerns and aspirations. For rural electrification, energy projects are not adequately gendered despite the government's claims to have mainstreamed gender in all development plans and strategies. Results from the field study reveal that the energy-specific needs of

women have not been satisfactorily tackled. Many interviewees stated that the state has not done enough to facilitate rural women's participation and when it did, this was more common in urban areas.

*I did not see any leader coming to ask about my views on the issue.... They do not involve us. We just see TANESCO installing electricity in rural areas, we don't know by who and how decisions were made. (Aisha, Interview, January 11, 2013, Shinyanga).*

Gendered energy needs were not prioritized in the design and execution of rural electrification. A critical analysis shows that the focus is to increase the number of people accessing energy in rural areas rather than addressing gendered energy needs. Increasing access to modern energy services is necessary but not sufficient to address the causes of gender injustices related to energy (as confirmed by one TANESCO official).

All women interviewed claimed not to have participated in the program in any way. While a gender and development approach emphasizes involving men and women to change gender relations, the practice of rural electrification points in the other direction. Some informants attribute this to patriarchy and limited women's participation and presence in politics and decision-making organs.

### Women's perceptions of rural electrification

Electrifying rural areas was an idea appreciated by all interviewees. Many respondents considered it an opportunity for rural development and transformation. Having access to electricity was considered a means to women's empowerment and economic freedom. The informants thought that access to reliable energy would provide them with opportunities to engage in economic activities that would guarantee their freedom and liberate them from the "bondage of patriarchy."

Other benefits included, they felt, improved social services, such as health and education, because the availability of electricity in rural areas attracts and

helps retain workers. Further, its presence is believed to create employment opportunities for rural youth in areas such as mobile phone recharging and hair cutting, reducing the problem of rural–urban migration.

## Challenges

Lack of inclusive participatory design and implementation processes, high costs, and lack of knowledge on use of rural electrification were the main challenges identified. For informants, most challenges relate to participation and decision making. Interviewees claimed that women are regarded as takers of what has been decided by men. The challenges arising from knowledge scarcity and use of electricity may hamper women’s emancipation in the energy sector. Although the energy policy states that women are supposed to be involved in any issue concerning energy to empower them and help resolve the energy-related challenges they encounter (URT 2003), interviews with rural women indicate that this has not been the case. Translating energy and gender policy statements into practice has been a challenge to authorities and functionaries tasked with responding to rural women’s energy needs and priorities.

## Conclusions and recommendations

Rural electrification has the potential to achieve a multisector impact in rural areas. It is a catalyst for social, economic, and productive gains. It is undeniable that the presence of electricity in rural areas creates opportunities that may help reduce the marginalization and subordination of women. Although rural electrification is not a panacea, it is vital for women’s gradual empowerment and reduction of their daily burdens.

Many informants consider rural electrification very significant, but the government has not offered wide energy choices to the rural population. Other energy sources such as solar and cooking gas were generally absent in the areas visited. Facilitating access to

affordable and reliable energy sources in rural areas remains one of the best ways to achieve rural transformation and development.

But resolving energy challenges facing rural women requires more than electrifying rural areas. Gender-specific energy needs have to be identified and mainstreamed in the design and implementation of rural electrification programs. Further, for rural electrification to resolve energy challenges, especially those related to cooking, installation costs and the prices of electricity for domestic use must be reduced. Despite the government’s reducing the installation costs of electricity in rural areas, many rural and poor consumers consider it still too expensive for cooking. It is not enough to increase the number of households accessing electricity to 75 percent, by 2033. This goal should be accompanied by awareness among rural people.

Rural electrification has failed to mainstream gender in the design and implementation of rural energy projects. Although gender mainstreaming cannot resolve energy cost challenges, it is vital in making women’s concerns and needs known and integrated into energy projects. By making them known, the government will have to respond to them and design rural energy projects, alongside other strategies to resolve the challenge of costs.

Rural electrification has inadequately addressed women’s energy needs and challenges. Rural electrification did not approach the challenge of energy in rural areas from an informed and gender-sensitive perspective. This poses a challenge to the government to reflect on its rural energy strategies and plans to improve on future energy projects.

The following measures are recommended to make rural electrification gender sensitive and responsive to rural development and transformation.

- Consulting with and involving rural people, especially women, to learn of their energy needs, challenges, and expectations, and to mainstream these in all energy policies, and so on. The government should not try to

think on behalf of rural women and men about what is good for them.

- Conducting training and support for practitioners and policymakers (for example through guides on developing and implementing gendered energy programs).
- Building awareness among rural women and men about the use of different sources of energy, the costs involved, and the likely benefits of sustainable and modern energy sources vis-à-vis traditional energy sources.
- Finally, in designing and implementing energy programs, considering the types of energy required by women, appropriate costs, and adequate distribution systems aligned with women's needs and situations.

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