

GVEP'S EXPERIENCE WITH WORKING WITH WOMEN ENTERPRENUERS IN EAST AFRICA

By Phyllis Kariuki and Patrick Balla

Introduction

This paper draws on GVEP International's experience in working with women entrepreneurs in East Africa under the Developing Energy Enterprises Programme (DEEP). It provides an overview of the DEEP programme and rationale for the implementation of the programme, as well as a profile of women entrepreneurs under the programme and some of the emerging outcomes and impacts of the interventions especially in relation to linking female entrepreneurs with finance.

The East African countries (Kenya, Uganda and Tanzania) with more than 100 million people have low access levels to modern energy services. In Kenya, less than 15% of the population has access to electricity, and between 80-95% of the population uses wood fuel and charcoal for cooking and heating. In Tanzania, less than 10% of the population have access to grid-based electricity and other forms of modern energy; the majority rely on biomass for cooking and heating. In Uganda, less than 3% of households in rural areas and 8% in urban areas have access to grid electricity; most people rely on biomass for energy sources.

There is a growing recognition that the private sector has an important role to play in clean energy delivery, although there have been specific limitations, particularly with regard to providing access to low-value and remote markets. Distribution of kerosene and production and distribution of charcoal and firewood are currently the preserve of the informal business sector. Equally, small businesses and the informal sector are proving to be effective vehicles for supporting the delivery of clean energy products and services (Rai and Clough, 2011¹).

The Developing Energy Enterprises Project (DEEP)

The Developing Energy Enterprises Project (DEEP) is a five year initiative funded by the European Union (EU) and the Dutch Ministry of Foreign Affairs (DGIS), initiated in 2008 to provide the crucial support necessary to enable the development of a sustainable and widespread industry of micro and small clean energy enterprises in Kenya, Uganda and

¹ Developing Energy Enterprise Programme East Africa - Employment generation through energy enterprises in Base of Pyramid Markets, Kavita Rai and Laura Clough. To be published in 2012 by IRENA.

Tanzania. GVEP International recognises the constraints and challenges faced by rural clean energy entrepreneurs, especially the lack of business and technical capacity and inadequate access to finance. The project assists the entrepreneurs with the identification of viable energy market opportunities, technology options, and service structures to generate revenue and sustain business. DEEP also assists entrepreneurs to develop business plans and access finance.

Around 885 micro-entrepreneurs are being supported with business development coaching. Most of these businesses were run as an occasional side line but following training many entrepreneurs have been able to turn their energy business into their main income earning activity, in some cases dramatically changing their economic situation. We estimate these businesses have brought benefits to around 1.7 million people since the programme began.

A profile of women entrepreneurs in DEEP Programme

From the beginning the programme set out to involve equal numbers of men and women. The table below provides a breakdown of entrepreneurs by gender showing 56% of entrepreneurs being male in comparison to the 42% being female and 2% groups. Groups are often mixed although dominated by women.

The main technologies covered by DEEP are improved cook stoves, solar and briquettes. The gender profile for each technology is different. Female entrepreneurs are generally less mobile than male entrepreneurs. As a result men have a higher level of access to information and ability to source products for sale. Female entrepreneurs tend to be engaged in businesses that do not need a high level of capital, use low technology and deal in products that can sell to immediate markets. There are, however, interesting examples of women succeeding in areas normally dominated by men.

Table 1: Total number of DEEP Entrepreneurs by Gender

Technology	Female		Male		Mixed groups	
	No	%	No	%	No	%
Improved Cook stoves	196	51	181	47	10	3
Solar	47	20	183	78	4	2
Battery Charging	3	10	27	90	0	0
Briquette	104	62	59	35	6	3
Biogas	1	3	28	97	0	0
Others	18	50	18	50	0	0
Total	369	42%	496	56%	20	2%

Women and men are more or less equally represented in the improve cook stove segment – though men tend to predominate in cladding and stove assembly.

Women engaging in briquette production are far more than men, this is because the capital requirements for briquette production are not as high as other energy technologies – at least in the initial stages. Briquette businesses using machinery and/or making briquette equipment are usually run by men who are likely to have had some technical training.

Solar technology requires relatively more business capital to start and grow. The table reveals that more men engage in this business compared to women.

Biogas is a technology known to be skewed towards men. Only one female entrepreneur is engaged in biogas as a business. Women are constrained in participating in some energy technologies which are perceived to be masculine enterprises.

More male than females are involved in battery charging businesses, only 10% of these businesses were led by women. This could be attributed to the fact that battery charging is perceived as requiring more technical skill thus constraining women entrepreneurs.

There are country level differences with regard to type of energy products and services sold or provided by the DEEP EA entrepreneurs. For example, almost 59% of entrepreneurs in Kenya, 35% in Tanzania and around 36% in Uganda deal with ICS products while Uganda has the highest number of briquette entrepreneurs (41%). Tanzanian entrepreneurs are more inclined to solar technology (51%), as opposed to 16% in Kenya and 15% in Uganda.

Table 2: Distribution of DEEP Entrepreneurs by Country

Technology	Kenya		Uganda		Tanzania	
	No	%	No	%	No	%
Improved Cook stoves	184	59.4	108	35	95	35.6
Solar	51	16.4	46	15	137	51.3
Battery Charging	1	0.32	1	0.35	28	10.5
Briquette	44	14	125	40.5	0	0
Biogas	0	0	27	8.8	2	0.75
Others	30	9.7	1	0.35	5	1.8
Total	310	35%	308	30%	267	35%

Character of the enterprises

The DEEP programme is working with very small micro enterprises. Most of these enterprises are non-registered (informal) businesses and owners have little formal education (usually less than secondary school level) and lack entrepreneurial and business know-how. These categories of enterprises have little access to credit, with limited awareness of markets and market opportunities. The female entrepreneurs are often constrained by their household

responsibilities and marital status (for instance, having to obtain permission from their husbands to travel out of town for training or trade fairs).

A few of the micro-enterprisers (especially those dealing with solar products, LPG and biogas) are registered, operating from legitimate business premises and employing a few workers (1 to 9 workers). These entrepreneurs generally have at least secondary level education with some previous experience as employees. Occasionally, women entrepreneurs in this category have supportive husbands who may also be directly or indirectly involved in the enterprise. This segment is constrained by lack of access to finance for various reasons, including having no land/property title deeds to be used as collateral for large loans.

In rural areas, many micro or small energy entrepreneurs work in isolation, characterized by sole proprietorship, low production capacity and unclear boundaries between personal and business finances. It is often observed that these enterprises display weaknesses in innovation, a lack of financial acumen, marketing, entrepreneurial flair, practical knowledge, and human resource management. As a result, many firms do not reach their full potential and fail to grow. GVEP's experience of working with enterprises in rural areas indicates that delivering a successful energy business can be more challenging as linkages to appropriate suppliers and financial institutions are weak and the availability of markets limited. This combined with operating in isolated areas where consumer awareness and purchasing power are low contributes to the high failure rate of these enterprises.

GVEP Approach and Achievement

GVEP has worked with these enterprises in providing both financial and non-financial services. GVEP is providing business training to enterprises, the most common form of business support being management, business skills and entrepreneurship. Technical training emphasizes technical skills related to the specific energy business. GVEP also provides business mentorship emphasizing on business extension, marketing, bookkeeping, inventory costing, production and choice of appropriate energy technology. The support is provided on a one-to-one basis at the business site.

In addition GVEP international initiated a loan guarantee fund in 2009 to trigger financing for energy entrepreneurs. The aim of the fund is to bridge the financing gap between financial institutions and energy entrepreneurs. The fund is structured as a revolving fund where portfolios of guarantees are made with different financial or intermediary institutions. In return financial institutions extend credit to entrepreneurs, communities' or clustered micro enterprises using a variety of financing models.

One of the major challenges faced by the micro entrepreneurs in expanding their business is access to appropriate finance. In 2009 GVEP International commissioned a market study which revealed that most financial institutions lacked an understanding of what sustainable clean

energy enterprises were, and had not extended credit to micro energy entrepreneurs or their consumers (the majority of whom are female) with the exception of solar home system providers (Kariuki and Rai, 2010.)² The study further revealed fundamental financing challenges at three levels;

- (i) at financial institution level –inadequate capacity at all levels of the financial institutions (leadership and innovation); overcautious lending - overstatement of risks; and a market expansion limiting group-based financing model;
- (ii) sustainable clean energy entrepreneur level (low level of awareness of new sustainable clean energy products in the market and lack of credit history;
- (iii) at gender level, there is disparity in accessing credit - more males than females were able to access financing.³

The DEEP programme is addressing these issues through the loan guarantee fund. This innovative aspect of our programme is opening up access to loans for a range of energy businesses which would otherwise be unable to obtain credit. In a number of cases credit has been made available to consumers, accelerating sales of lighting products.

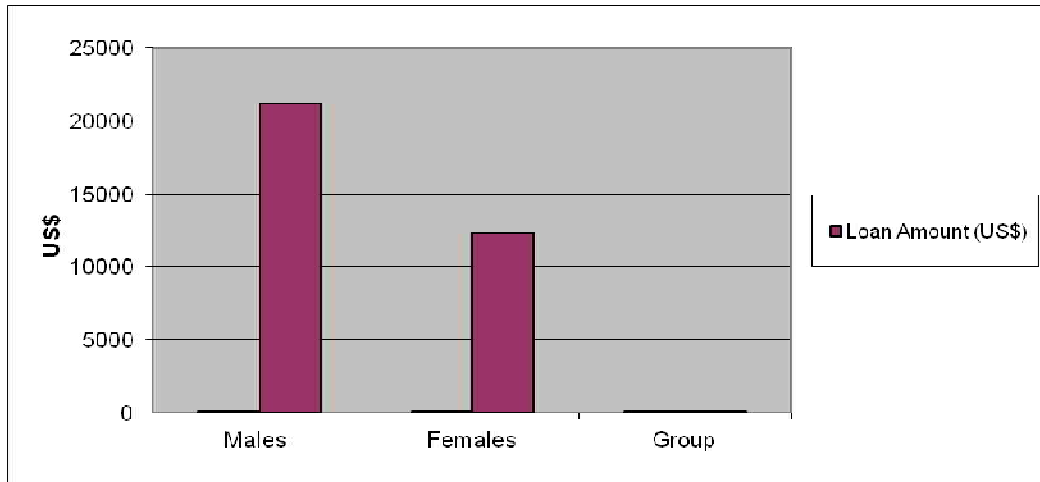
As of September 2011 GVEP International was working with 6 financial institutions across the three countries and had linked 60 entrepreneurs to these financial institutions through which they have accessed loans. Five DEEP entrepreneurs have received and repaid loans and 55 are currently being financed under this fund using different financing arrangements. Out of the 60, 34 are male, 25 female and 1 a group. This is roughly the same gender split as we see for enterprises generally in the programme. However, there are significant differences in the amount women borrow compared to men.

In terms of loan amounts males borrowed twice as much as female entrepreneurs. This is because the average loan size is smaller for women. One reason for this could be is that female entrepreneurs undertook business that required small amounts of credit and are predominantly in liner production for improved cook stoves and briquettes that require lesser amounts of credit than other technologies.

² Market Survey on Possible Co-operation with Financial Institutions for Energy Financing in Kenya, Uganda and Tanzania, Phyllis Kariuki and Kavita Rai, GVEP, February 2010.

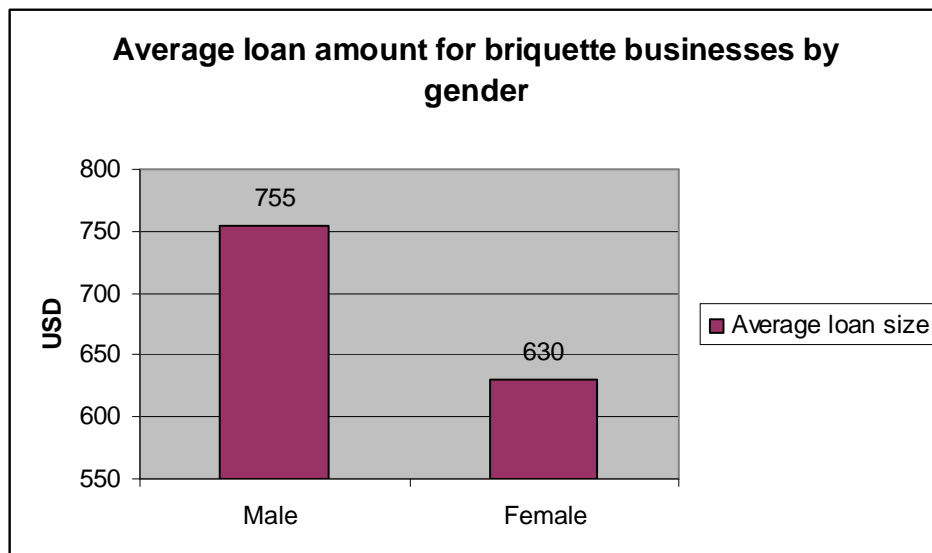
³ The gender finding is based on the Kenya country study (unpublished) which fed into the regional summary report.

Figure 1: Loan amount by gender



In the area of briquette production, the DEEP program has more female entrepreneurs than male. However, almost as many male briquette entrepreneurs (14) borrowed as did women (15.) Males also took out larger loans on average (\$755) compared to female entrepreneurs (\$630) as evidenced in Figure 2. Women tend to be more cautious in the size of loans they request. For most this is the first loan they have had from a formal financial institution.

Figure 2: Average Loan size by Gender in Briquetting Technology



For improved stoves, more male entrepreneurs (9) borrowed than female entrepreneurs (6) yet the DEEP program has slightly more female entrepreneurs in improved cook stoves technology

than male entrepreneurs. As with briquettes this suggests women are more cautious about credit than males – though the sample size is small. Average loan sizes for men were higher (\$649 compared to \$534 for women) possibly because they are engaged more in cladding and assembly, requiring larger loans.

Figure 3: Average Loan Size by Gender in Improved Cook Stoves

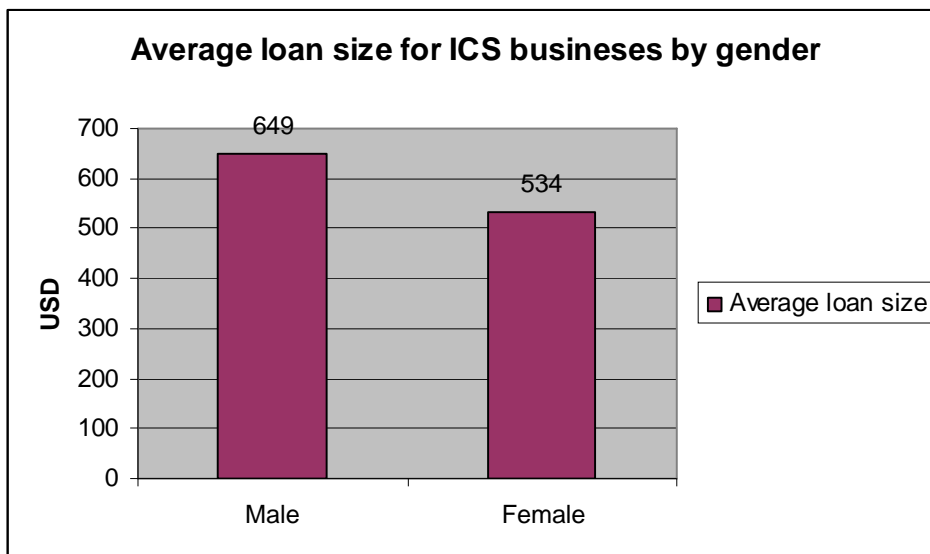
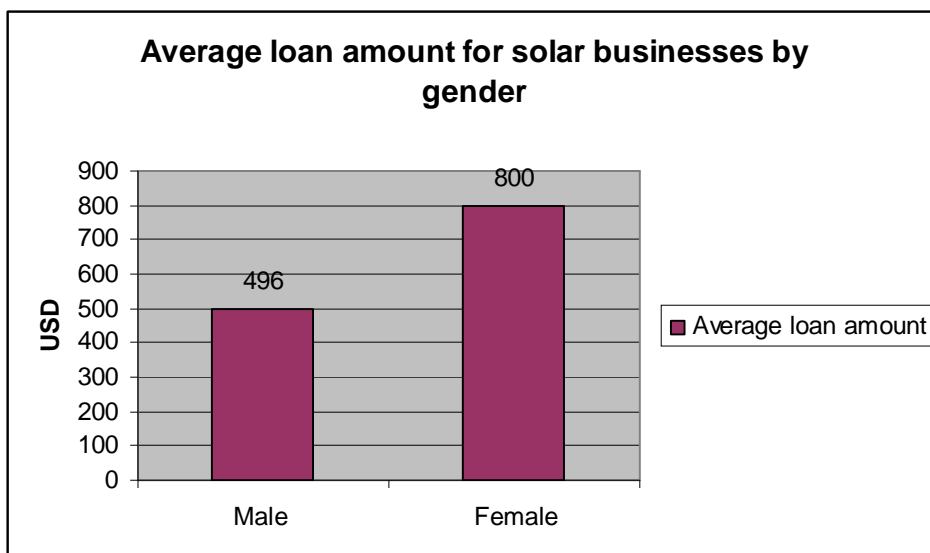


Figure 4: Average Loan Size by Gender in Solar Technology



The surprising result to emerge from the analysis is in solar technology businesses. Despite being an area dominated by men, women have secured loans in equal numbers to men and on

average borrowed more. Clearly some women are able to succeed in this male dominated preserve. The women who took these loans are involved in both charging services and selling solar lanterns, the men are involved mainly in providing phone charging services. These women, who are all in Uganda, seem particularly serious about their businesses.

Lessons learnt and implications on energy policy

The DEEP programme is working with both men and women and aims for a 50:50 gender balance in the entrepreneurs. The programme is ongoing and has 2 more years of implementation. However, some lessons can be drawn from the experience working with women enterprises in the programme. These lessons can also inform future programs and policy work in support of women enterprises.

Financial availability and accessibility is a major barrier for both female and male entrepreneurs and constrains their growth. Currently, most of the enterprises lack access to formal credit. Women face specific challenges in accessing credit. Most of the women energy enterprises access loans through informal set ups like ROSCAS, ASCAS⁴ and shylocks (GVEP, 2009).

Case study: Solar pioneer



One of the women making headway in a male dominated technology is Immaculate Nakitende from Kalungu, Uganda, an entrepreneur in solar lanterns, ICS, and Briquettes production. As a result of GVEP's support, she managed to get a loan of UGX 2,000,000 (about USD 768) which she used to re-stock and diversify her business. Initially, she was in the business of solar lanterns. However, after the loan she has begun to undertake the installation of complete solar home systems. She has hired the services of a permanent employee who does the installation works.

In addition to solar PV, she has also diversified to briquettes and ICS sales. She has opened up outlets selling solar lanterns in Ntusi, Mubende and Milure villages. This has translated into an increased customer base of around 70 customers per month who buy lanterns and 30 who buy solar power packs. Due to expansion of her business, she has resigned from her teaching job to concentrate on the energy business. As a teacher, she was earning UGX 200,000 (equivalent to USD 77) per month but now she is able to make an average of 3,500,000 (equivalent to USD 1347).

⁴ Rotating Savings and Credit Associations (ROSCAS), Accumulating Savings and Credit Associations (ASCAS)

Women entrepreneurs lack start-up (seed) capital; lack awareness of existing credit schemes, face high interest rates (i.e. some financial institutions charge up to 30% for solar loan products) and lengthy and rigorous procedures for loan applications (even in loan guarantee.)⁵ They also lack of collateral security for finance. This coupled with a short repayment period (typically 6 months) becomes a major constraint, resulting in forcing the entrepreneur to work almost round the clock to service the loans. On the other hand, women tend to be more rationed, i.e. their loan applications are more often rejected. This is attributed to the fact that most of the collateral belongs to men. They borrow less than male counterparts. Men access credit more easily i.e. in terms of loan sizes and numbers.

In energy, women are more common in improved cook stoves and briquette enterprises, but can succeed in areas normally dominated by men. More efforts should be made to encourage them to diversify into other energy technologies such as solar, biogas and others using the same value chains that they already have.

Financial institutions are not aware of energy businesses and don't have expertise in evaluating these loans. Training and awareness raising in these areas need to continue. Through the targeted and proactive use of a guarantee fund it is possible to enable female led businesses to access loans. More research is needed into why fewer women are seeking loans in some areas and why average loan sizes are lower for women. Preliminary analysis of the entrepreneurs securing loans show that there is an impact though more time is required to evaluate further as this is at early stage. It is also early to make conclusions on whether women managed enterprises are better at making use of credit than male.

With the right support it is possible to grow many small energy businesses. Women enterprises active in the energy market lack access to appropriate training and support in business development. Support services to enterprises need to cover both financial and non-financial interventions to enhance the development and sustainability.

Policy frameworks which support participation by enterprises in energy supply are critical for success in these markets. While the policy environment has improved for supporting women enterprises (in Kenya we have Youths Funds; women funds, etc), it is not clear how these policy reforms are benefiting women businesses involved in the energy enterprises. Tanzania has a government fund that targets micro and small businesses where lending money is channeled through selected banks and financing institutions. Research is needed to identify impacts of such reforms/initiatives on energy enterprises.

⁵ A good example is SIDO in Tanzania where we have held discussions for more than a year with minimal results. From DEEP experience, it takes between 4-5 months to close a financial linkage deal with a financial institution.