



# GENDER-SMART BUSINESS SOLUTIONS

## CASE STUDY: KENYA'S SOLAR LIGHTING ENTREPRENEURS

Lighting Africa, Kenya

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## Program Overview

Over the past several years, Kenya has launched a number of initiatives to address its electricity shortfall. But power supply<sup>1</sup> continues to be unreliable in many parts of the country, acting as an impediment to economic growth. Kenya therefore is looking to expand its renewable energy resources, including solar energy<sup>2</sup>.

To ease the power situation in Africa, the World Bank and IFC jointly launched the Lighting Africa program, with the aim of providing modern lighting and energy products by 2030 to 250 million people who currently live off the grid. The program has focused on raising the quality standards of energy products through policy, working with suppliers to rid the market of substandard products, opening up markets for wholesale and retail distributors and creating market linkages for micro-entrepreneurs and small enterprises.

Realizing that women can serve an important role in achieving this goal<sup>3</sup>, the Lighting Africa Kenya program engaged the non-governmental organization Practical Action, to design an innovative business model to ensure that women were included in the solar energy value chain as consumers and entrepreneurs—the Last Mile Entrepreneurs Program (LMEs).

## Challenges

Over 70 percent of the population in Sub-Saharan Africa has no access to electricity. In Kenya, more than 30 percent of the population has no access to the energy grid and rural electrification

was estimated to be 12.6 percent by 2014<sup>4</sup>. Consequently, most of the off-grid population relies on off-grid solutions like solar, biomass, and kerosene for their energy needs. Nearly three billion people in the world rely on traditional biomass based fuels and women and children are affected disproportionately.<sup>5</sup> 70 percent of households in Africa and 68 percent in Kenya, rely on wood-based biomass.<sup>6</sup>

Women disproportionately bear adverse health effects of using kerosene and biomass energy sources, with approximately four million people dying every year from household air pollution<sup>7</sup>. When it comes to looking for energy resources, women bear the burden of unpaid work, with women and girls spending up to 20 hours a week fetching firewood.<sup>8</sup>

Ensuring that the solar market value chain reaches consumers at bottom of the pyramid calls for innovative and inclusive solutions since solar energy retail penetration in Kenya is estimated at 21 percent nationwide.<sup>9</sup> While key components of the Lighting Africa Kenya program included building capacity for wholesale and retailers, challenges that made it difficult to open markets further down the supply chain needed to be tackled. The main barriers to deepening the reach are limited access to financing, linkages with credible suppliers for last-mile entrepreneurs and business management skills critical to running a sustainable energy business.

In particular, women find it more difficult to access financing because of lack of collateral and most of their sales are on credit—which ties up their working capital—hence scaling up their businesses is a challenge. Over time, the market had also been flooded with substandard products, thereby eroding consumer confidence in solar products. Low consumer awareness, access and linkages with credible suppliers in the solar value chain also present a gap for the last-mile female entrepreneurs.

## Gender-Smart Solutions

According to the members in the LME program, over 80 percent of their customers at the household level are women consumers. Identifying and nurturing the women's market is therefore a success factor for Lighting Africa Kenya. However, this new focus requires creative marketing and expertise in order to unlock this unique market opportunity. This includes among other solutions working with women entrepreneurs to access micro loans to purchase solar products, often through village loan and saving groups.

Providing relevant business training and technology to women will enable them to participate as actors in the renewable energy technology value chain as energy entrepreneurs. Lighting Africa Kenya designed the LME program with the aim of strengthening women-owned energy enterprises by linking them with suppliers and financiers and supporting them with training so as to open up the market at the bottom of the pyramid and meet household energy needs.

<sup>1</sup> <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=KE>

<sup>2</sup> [http://www.ke.undp.org/content/kenya/en/home/library/environment\\_energy/environmental-sustainability--renewable-energy-and-sustainable-l.html](http://www.ke.undp.org/content/kenya/en/home/library/environment_energy/environmental-sustainability--renewable-energy-and-sustainable-l.html)

<sup>3</sup> [http://www.ifc.org/wps/wcm/connect/efc71c24-b75d-45fd-8d6c-73a4d2a6d04b/4141\\_Gender\\_Case\\_Study\\_LightingAsia1.pdf?MOD=AJPERES](http://www.ifc.org/wps/wcm/connect/efc71c24-b75d-45fd-8d6c-73a4d2a6d04b/4141_Gender_Case_Study_LightingAsia1.pdf?MOD=AJPERES)

<sup>4</sup> <http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=KE>

<sup>5</sup> <http://documents.worldbank.org/curated/en/82997146833310498/pdf/WPS5800.pdf>

<sup>6</sup> [https://siteresources.worldbank.org/EXTAFRREGTOPENERGY/Resources/717305-1266613906108/BiomassEnergyPaper\\_WEB\\_Zoomed75.pdf](https://siteresources.worldbank.org/EXTAFRREGTOPENERGY/Resources/717305-1266613906108/BiomassEnergyPaper_WEB_Zoomed75.pdf)

<sup>7</sup> [http://www.energia.org/cms/wp-content/uploads/2016/10/euei\\_brochure\\_gender\\_web.pdf](http://www.energia.org/cms/wp-content/uploads/2016/10/euei_brochure_gender_web.pdf)

<sup>8</sup> [http://www.ke.undp.org/content/kenya/en/home/library/environment\\_energy/environmental-sustainability--renewable-energy-and-sustainable-l.html](http://www.ke.undp.org/content/kenya/en/home/library/environment_energy/environmental-sustainability--renewable-energy-and-sustainable-l.html)

<sup>9</sup> <https://www.lightingafrica.org/country/kenya/>



Access to finance is critical for distributors and consumers at the base of the pyramid without which consumers especially, would otherwise be unable to meet upfront costs. Lighting Africa Kenya works with Microfinance Institutions (MFIs) in a mutually beneficial partnership where it supports MFIs to make market linkages and encourages them to provide financing to women groups.

To implement the training component of the program, Lighting Africa Kenya engaged Practical Action and jointly developed a tailor-made training and mentorship program for women in the solar energy business. The program recruited 400 self-employed women and conducted training across the country. The training focused on capacity building in business management skills, with modules in sales and marketing, communications, record keeping, employee-productivity management and agency-based empowerment. For the mentoring phase, high-potential entrepreneurs in the solar energy sector were selected and paired up with business mentors to build on the training with a focus on results.

In addition, Lighting Africa Kenya mobilized its associates for exhibitions where the women sampled Lighting Africa's quality verified products and networked with suppliers of these products, thereby creating linkages with reliable suppliers. This also allowed women energy entrepreneurs gain better access to the market to networks.

## The Business Case—Benefits of Focusing on Women Entrepreneurs

The program has identified a wide pool of women solar entrepreneurs at the micro-level. The program initially planned to target a maximum of 200 last-mile entrepreneurs, but it increased the goal to 400 to accommodate demand.

The program is now helping build capacity for the entrepreneurs in skills development, markets access, and access to credit—the key challenges to unlocking the grassroots solar market.

- **Increasing penetration of quality products:** According to studies carried out by Lighting Africa Kenya only five percent of retail outlets in rural areas (where they are most needed) stock solar products. This has been a major challenge with solar products,

and as such, winning customer trust is a prerequisite to meeting the needs of consumers and boosting the businesses of last-mile women energy entrepreneurs. By linking women energy entrepreneurs with certified suppliers, Lighting Africa Kenya has ensured that quality products reach the bottom of the pyramid and that entrepreneurs build confidence and trust with the consumers.

- **Increasing market access:** Women make the majority of decisions on household energy supply and use. In addition, they create demand for renewable energy products, including solar products, as last mile solutions. Opening up the market at a micro level by empowering women entrepreneurs and getting good-quality products to the bottom of the pyramid is critical in addressing the energy gap at the household level.

- **Last mile distribution by women entrepreneurs:** In this case study, we found out that most consumers in this market segment do not have the funds to buy solar products upfront in a single transaction. There is also an affordability gap—the difference between what consumers would like to have and what they are able to pay for. They therefore require flexible payment terms that would enable households to climb up the energy ladder. Women entrepreneurs work with this consumer base to help them with financial planning and support access through self-help groups where women can access funds.

- **Women economic empowerment:** A survey of women who were using off-grid solar products in regions covered by Lighting Africa Kenya's LME program found that the women save at least \$10 a month—money that would have been spent on kerosene, with debilitating health impacts over time. With these savings, they are able to operate their microbusinesses and pay off debts accrued from the purchase of solar products, especially solar lanterns. As women energy entrepreneurs earn more income, they reinvest in their families, improving opportunities for better livelihood for the entire family.

- **Improved capabilities:** Prior to the training and mentorship offered to the women, they lacked basic business skills that would improve the way they operated their businesses. As a result of the training, the women gained better marketing techniques and enhanced skills in record keeping. This enabled them to better track business performance in line with sales movement.



### BRIDGING THE ACCESS TO FINANCE GAP—INNOVATIVE BEST PRACTICES IN HELPING WOMEN AT GRASSROOTS LEVEL

In Mombasa, Caroline Wanja shares a shop with her husband, from where she runs her solar business while her husband operates a mobile technology business. Caroline uses the shop as a base to market her products and to volunteer her time and expertise to support women form savings and credit self-help groups. Women entrepreneurs like her routinely do this as these groups are a key market for solar products. The groups motivate women to save and borrow funds to purchase solar lighting products.

### PODCASTING—INNOVATIVE APPROACHES TO BUSINESS MENTORING

Practical Action, the Lighting Africa Kenya LMEs program partner, came up with podcasting as an effective way to reach over 200 women entrepreneurs across the country, in addition to the network of mentors. Given Kenya's extensive mobile network coverage, high smart phones penetration, and high use of social media, this proved to be a very effective mechanism to deliver messaging and tips on business management.

## What IFC partners say

After conducting the needs assessment, it was clear that we could not give LMEs a standard business development training — we had to be more innovative as their needs were unique. We found that female entrepreneurs at this level lacked confidence and business skills such as record keeping and sales and marketing. They also did not take a long-term view of their businesses, so we had to assist in creating a vision for them.

### Lydia Muchiri

Lead Trainer, Practical Action

## What entrepreneurs say

There is a big market for solar products. I sell a minimum of 50 units a month and 80 percent of my customers are women. I have seen many women graduate and come back for more or better products over time. Consumers are becoming more aware and are appreciative of high-quality products. My biggest challenge is capital, as I'm not able to scale up even when I have a sizeable pipeline. My customers are low-end users who mostly buy on credit, hence most of my capital is tied up all the time.

### Rose Wanjiku Ng'ang'a

Solar Entrepreneur, Mombasa

## What IFC says

The Lighting Africa Kenya program realized that products were not reaching the grassroots and that we needed to deepen the supply chain. Challenges ranged from waning consumer trust due to substandard products and lack of capital. We designed a program that partnered with the right stakeholders, so as to open up the right channels for unlocking a viable market at the bottom of the pyramid. With standards in place and improved technology, women entrepreneurs will be the solution to penetrating the base of the pyramid and reaching more consumers. The LME program is working to bridge the existing gap and unlock this market.

### Nana Asamoah-Manu

Program Lead, Lighting Africa Kenya

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*Creating Markets, Creating Opportunities*