

CONTEXT

Kenya has an estimated population of 40 million with 77 % of these people living in rural areas. The poverty incidence in Kenya is quite high, with all 7 provinces having 56 % of their population living below the national poverty line. The majority of Kenya's population lacks access to modern energy services, which severely limits their potential for economic and social development. According to IFC Lighting Africa reports only about 5% of rural Kenya is connected to the national grid. Nearly half of the rural households (49%) use the tin lamp and a further 34 % use the kerosene lantern. Only 1.6 % uses solar yet it is a cheap and clean source of lighting energy.

Most Kenyan households depend on traditional biomass resources, including fuel wood and charcoal for cooking and kerosene for lighting. Traditional biomass sources have detrimental impacts on health, gender and income poverty in Kenya. Lack of clean, affordable and efficient energy services in the rural areas is also contributing to growing rural-to-urban migration. The opportunity for modern and environmentally friendly lighting devices within Kenya is substantial.

INCREASING SOLAR LIGHTING OUTREACH BY SUPPORTING RURAL DISTRIBUTION CHANNELS

SNV has partnered with ENDEV through Giz Kenya to implement a solar Pico Pv Project in 10 counties in Kenya. Through this project, SNV seeks to increase access to and use of modern lighting for households at the Base of the Pyramid (BoP) by establishing and strengthening sustainable and commercially viable supply and distribution models for quality PicoPV (1 – 10 W) products and services at the local level. This includes end user awareness creation, capacity development for rural entrepreneurs, the set-up of a decentralized after sales service system and the establishment of payment models that match BoP customers' irregular cash flows. The solar products that this project addresses are products, tailored to the needs of the poor (affordable quality lighting and phone charging), products they really want and for which there is a sizeable national market. The established distribution model is expected to be profitable, commercially viable, environment conscious and scalable.

The project is promoting the distribution of several Lighting Africa approved products that are available on the Kenyan market, they typically cost between 15 and 75 €, have a 6 month warranty on them, provide light up to 8 hours a day and have a phone charging facility. These products consist of Barefoot's Firefly 12 mobile, Powapack Junior 2.5W Matrix and Powapack 5W, D Light's S250, Greenlight Planet Sun King and Planet Sun Kin Pro, Sunlite Solar Light G3, ToughStuff's Desk Lamp Kit and Room Lamp Kit and Trony Solar Sundial TSL-01.

SNV initially partnered with Barefoot Power (www.barefootpower.com), and its local subsidiary of Smart Solar (K) Ltd to pilot a business model of solar lamp distribution in rural Kenya. The work entailed creating awareness through and among SNV's clients and partners, and other rural distribution channels in the Rift Valley, central and western Kenya on the Bare Foot technologies. This stimulated high interest for the products among the rural people. The lessons and experience from this pilot gave birth to the bigger project that now covers 10 counties. Giz also took up the model and is implementing the same in another 12 counties.

Household monthly expenditure on lighting

The average daily amount spent on kerosene is 50 KSh, meaning an average household will spend 1,400 KSh per month on lighting.

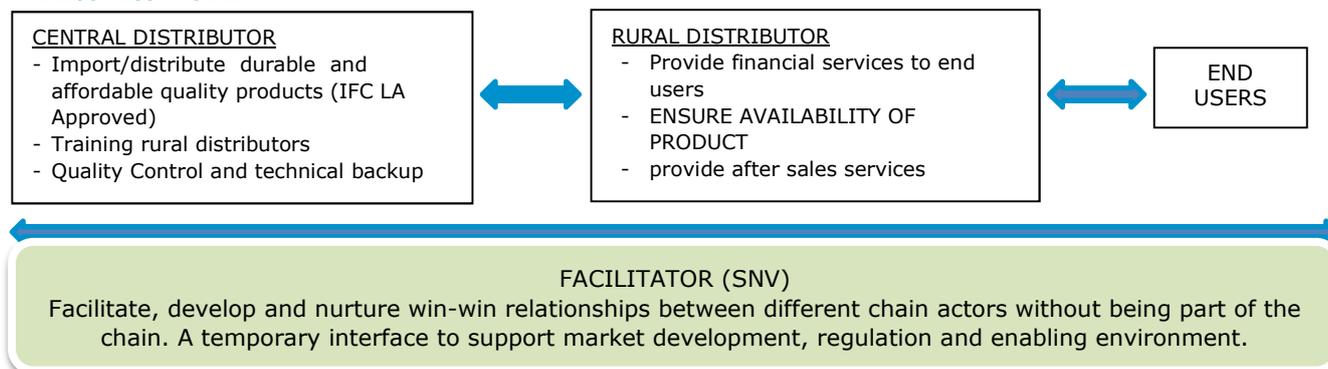
Other related costs are:

- Simple paraffin lamp with wick and no cover (Ksh 417)
- Paraffin lamp with glass cover (Ksh 668)



A trader displays the Firefly 12 Mobile Lamp in Nandi

THE BUSINESS MODEL



In the current project SNV has signed partnership MOUs with 7 of the Lighting Africa Associates based in Kenya. It has also identified 10 rural distributors covering each of the 10 counties. Through this partnership, SNV collaborates with both the Lighting Africa Associates and the rural distributors to create awareness about availability and benefits of using PSLs to replace kerosene lamps. The awareness creation is done through roadshows, media and local stakeholder forums. SNV also links Lighting Africa Associates with rural distributors to ensure the products reach those people in the remotest areas, off the national grid, who need the solar lights most. SNV is also involved in the capacity building of both the rural distributors as well as Last Mile Entrepreneurs who are responsible for retail sales especially in the remote areas. Due to the fact that many BOP households cannot afford the upfront investment (USD 10-150) required for quality solar lamps, SNV is collaborating with the rural distributors to develop innovative financing mechanisms. These include checkoff systems, micro finance and lay away payments.

Several context specific distribution channels for the solar lamps are evolving. The main ones include farmers organizations (dairy cooperatives and CBOs), rural Saccos, plantations (tea & horticulture) MFIs and livestock markets. So far over 8,000 lamps have been distributed, over 60% of these in the last 6 months of 2012. The project has already established a strong presence in 5 of the 10 counties and is spreading rapidly but systematically to cover the remaining counties.

Among the leading rural distributors is Visionary Empowerment Programme (VEP), a local NGO based in Thika that has a successful microcredit programme for its over 7,000 women group members drawn from Central and eastern provinces. The organization has started a micro leasing programme for cookstoves and solar lanterns and has made sales worth over **Ksh. m in 2012**. The market is evidently growing and so is the prospect of reaching more households with clean lighting solutions. More distributors are being recruited into the Programme. Among these is Bomasafi Ltd an SME that focusses on the plantation sector, Suntec (MFI channel) and SCODE.



A solar demonstration in a Magadi Market

EMERGING LESSONS FOR SCALING UP THE PORTABLE SOLAR LANTERN PROGRAMME

It is evident that there is a big untapped market for solar lamps and other renewable energy products for the BOP in Kenya and that BOP consumers respond positively to problem solving and poverty reducing goods. However, consumer confidence is vital to the acceptability of RE goods. This can only be achieved by developing networks of trained and equipped service providers closest to where the RE products are sold.

There are ample opportunities in creating linkages between central solar lantern distributors and rural distributors who have an established customer base. This will enable them to jointly promote and distribute solar lanterns in the rural areas. To make this a success, the terms of supply must be adhered to by all actors in the supply chain. Distributors have to ensure a continued supply of quality products and develop local repair and maintenance capacity.

Due to the low buying power and scattered nature of BOP consumers, it is expensive to set up business premises thus calling for development of appropriate aggregation models for the BOP.

Another aspect to tackle in scaling up access to solar lanterns is access to credit for both rural distributors and end users. Currently the enterprises lack capital to meet the demand for the goods and the financial institutions lack products suitable for such enterprises. The central distributors could design credit terms for their distributors to enable them to stock enough goods and get paid when goods have been sold. Along the same lines, rural distributors can consider innovative end user credit schemes.