



# WAJIR d.LIGHT PILOT EVALUATION



Wajir, Kenya - William Baron

## Exploring the potential of village-based solar lanterns micro-retailers in Wajir County

In May 2013, Mercy Corps and d.light began implementing a one-year pilot project to explore the potential for village-based micro-retailers (VBMRs) of solar lanterns in Wajir County as part of a Mercy Corps Gates Foundation funded project. The Mercy Corps and d.light pilot project identified twenty individuals in thirteen villages in rural areas of Wajir County, a county in north-eastern Kenya with a population of approximately one million people, predominantly living as pastoralists, and supported them to become village-based micro-retailers of solar lanterns. Support included training, a 75% grant contribution to their initial purchase of stock, a start-up kit consisting of marketing materials, and on-going business mentoring and advice. The project also worked with two sub-distributors (SDs) in Wajir Town, who purchased solar lanterns from the Nairobi based national distributor for d.light products in Kenya, Sollatek. This report presents the findings of the final evaluation of the project, conducted in May 2014 by an external consultant. The full report is available upon request.



## PROJECT APPROACH

The VBMR model established by Mercy Corps in this project represents a new approach to last-mile distribution for solar lanterns in Kenya, and is a significant departure from d.light's existing business model.

The project has produced an impressive return-on-investment, and huge benefits for beneficiaries. With an investment of just \$18,867 by d.light and Mercy Corps, this project generated cumulative net benefits of more than \$135,000 for households in Wajir County in energy savings in the first year alone, or \$308,000 when taking into account savings on livestock losses. Benefits from past sales alone will increase to a projected \$1.5 million over the next five years.

**13,000**  
**PASTORALISTS** now  
have access to d.light **solar lanterns**

**RETAILERS**  
selling lanterns have  
seen increased revenue  
and on average are  
**earning an additional  
\$63/month.**

## HOUSEHOLD OUTCOMES

An estimated 1,709 households (13,000 individuals) are now using d.light solar lanterns in Wajir County, as a result of the project. Of these, 49% (837 households) have purchased more than one d.light product. The purchase of a d.light lantern has a profound influence on the lives of Wajir consumers:

**Energy expenditure:** On average households save \$9.18 per month on recurrent energy expenditure when using a d.light solar lamp, or \$110.20 per year.

**Business and livelihoods:** Livelihood benefits for the predominantly pastoralist communities are very high. 63% of households reported reduced loss of livestock to wild animals as a result of using d.light lanterns on their animal corrals at night, with an estimated average value of \$100.62 per household in avoided livestock losses/yr.

**Constraints:** Demand for d.light products in target areas remains high, a consequence of strong levels of awareness and trust in the products. The major constraint to future household purchases of d.light lanterns is the frequent lack of stock availability. In addition, the evaluation found that households that have already purchased a d.light lantern are significantly wealthier than households that have not yet purchased a lantern, suggesting that poverty and lack of capital may also be a constraint for some households.

**Gender:** Women in particular have benefited from the purchase of a d.light lantern; women are the primary users in 62% of households, compared to just 2% of households in which men use the lanterns most. However, men still largely take responsibility for the purchase of the lantern (80% of households).

## VILLAGE BASED MICRO-RETAILER OUTCOMES

Mercy Corps selected and supported twenty individuals to become village-based micro-retailers of d.light lanterns, eleven of which owned existing businesses and five of which were owned by women.

**Sales performance:** Sales of d.light lanterns took-off immediately in Wajir County, and in general have been good across the VBMRs with an average of 21 units sold per VBMR (per 'selling' month) However from September 2013 sales were significantly lower, and from March 2014 dropped away completely, due to lack of stock availability.

**Stock purchases:** Maintaining adequate stock levels has been the major factor restricting higher sales and income for VBMRs, and is largely due to frequent unavailability

of stock at the Wajir Town sub-distributor. On average VBMRs were without stock in their business for 5.5 months (43% of the entire period).

**Business practices:** Business and marketing skills among the VBMRs appear to be excellent, reflected in the impressive sales data and high awareness of d.light products among households. The VBMRs are extremely proactive in marketing the lanterns, all engaging in door-to-door sales and many travelling to neighbouring villages and providing credit. However, the warranty system is functioning very inefficiently.

**Success factors:** The gender of the business owner did not appear to have a significant impact on sales performance, though it seems women have a slight advantage in terms of generating sales in their home village, while men are better able to travel to neighbouring villages to increase sales. Existing businesses performed significantly better than new businesses (44% higher sales)

**Constraints:** Unavailability of stock at the sub-distributor is by far the most damaging constraint facing the VBMRs. This resulted in many months in which VBMRs were not able to sell at all, and caused four VBMRs to drop out of the market altogether. Access to finance would allow VBMRs to increase the amount of credit they provide to customers, but would not hugely increase sales.

## SUB-DISTRIBUTOR OUTCOMES

Mercy Corps supported two sub-distributors (SDs) based in Wajir Town to act as distributors of d.light solar lanterns for Wajir County, but by the end of the programme only one of these was still operating.

**Sales performance:** The sales performance has not met expectations of the SD owner, and average profits of \$247 per month are not considered a significant source of profit for the business.

**Stock:** The SD has repeatedly failed to maintain stock of d.light lanterns. This was sometimes the result of a lack of supply at the national level. However, mostly it was poor stock management and business planning on the part of the owner, who ordered too little stock, too infrequently. The underlying reason for these poor business practices appears to be a lack of motivation, due to the size and nature of the owner's core business.

**Market system supporting services:** The SD in Wajir has a disengaged relationship with other actors in the network, providing minimal supporting services.



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## CONCLUSIONS AND RECOMMENDATIONS

- **Expand distribution channels through VBMR to meet high consumer demand for solar lanterns** – There is a large and viable market for solar lamps in Wajir County, and Mercy Corps and d.light should continue to develop and expand distribution channels and refine the VBMR model. The idea of joint female-male businesses should also be explored as a key part of the model.
- **Ensure stock availability at the Sub-Distributor to support Micro Retailer Success** – The biggest threat to sustainability of the Wajir market system for solar lanterns is stock-control problems, and underlying this, an inappropriate sub-distributor partner. If Mercy Corps is able to get funding to further support and expand distribution networks in Wajir, they should seek an alternative distribution mechanism and partner(s).
- **Scale back direct support to VBMRs to support sustainability** – Mercy Corps should move away from an intervention approach in which we directly identify and support VBMRs. Instead, Mercy Corps should entirely work with market agents one step back from the VBMRs, 'super-agents' that are responsible for selecting and supporting VBMRs in a particular area.
- **Use distribution channels to bundle socially beneficial products** – Where viable, Mercy Corps should aim to integrate other social impact products, in particular clean cookstoves.
- **Provide further training to support warranty systems** – Mercy Corps and d.light should reinforce the warranty system through training to VBMR and and better stock management support for sub-distributors.

## ABOUT MERCY CORPS

**Mercy Corps helps people turn the crises they confront into the opportunities they deserve.** Driven by local needs, our programs provide communities in the world's toughest places with the tools and support they need to transform their own lives. Our worldwide team in more than 40 countries is improving the lives of 19 million people. For more information, see [mercycorps.org](http://mercycorps.org).

## ABOUT d.light DESIGN

**d.light is a for-profit social enterprise whose purpose is to create new freedoms for customers without access to reliable power so they can enjoy a brighter future.**

We design, manufacture and distribute solar light and power products throughout the developing world. We aim to transform the lives of at least 100 million people by 2020.



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